R E P O R T R E S U M E S

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A COMPARATIVE STUDY OF THREE TECHNIQUES OF STUDENT FEEDBACK IN TELEVISION TEACHING--THE EFFECTIVENESS OF AN ELECTRICAL SIGNAL FEEDBACK SYSTEM.

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REPORT NUMBER NDEA-VIIA-453 PUB DATE 61
GRANT OEG-749096
EDRS PRICE MF-$0.18 HC-$2.56 64P.

DESCRIPTORS- *FEEDBACK, *INSTRUCTIONAL TELEVISION, *CLOSED CIRCUIT TELEVISION, COLLEGE STUDENTS, *ATTITUDES, QUESTIONNAIRES, LEARNING PROCESSES, *TELEVISED INSTRUCTION, RETENTION, DISTRICT OF COLUMBIA

AN INVESTIGATION WAS MADE OF THE RELATIVE EFFECTIVENESS OF THREE FEEDBACK TECHNIQUES IN TELEVISION TEACHING--"MICROPHONE FEEDBACK," "VICARIOUS FEEDBACK," AND "ELECTRICAL SIGNAL FEEDBACK." THE TECHNIQUES WERE STUDIED IN TERMS OF THEIR RELATIVE EFFECTS ON LEARNING, RETENTION, AND ATTITUDE TOWARD TELEVISED INSTRUCTION. EIGHTY SUBJECTS WERE SELECTED AT RANDOM FROM AMONG THE TOTAL, UNDERGRADUATE ENROLLMENT OF AMERICAN UNIVERSITY. TWENTY SUBJECTS WERE ASSIGNED TO EACH OF FOUR GROUPS--(1) A CONTROL GROUP WHICH WAS GIVEN NO OPPORTUNITY FOR FEEDBACK, (2) A "VICARIOUS FEEDBACK" GROUP WHICH HAD NO DIRECT MEANS OF COMMUNICATING WITH THE TEACHER BUT WAS THEORETICALLY REPRESENTED BY A STUDIO CLASS, (3) A "MICROPHONE FEEDBACK" GROUP WHICH COULD DIRECT QUESTIONS TO THE TEACHER, AND (4) AN "ELECTRICAL SIGNAL FEEDBACK" GROUP WHICH USED A DEVICE THAT PROVIDED LIMITED, IMMEDIATE, DIRECT COMMUNICATION WITH THE TEACHER. THE SUBJECTS WERE ADMINISTERED TESTS AND GIVEN AN ATTITUDE QUESTIONNAIRE BEFORE AND AFTER EXPOSURE TO FIVE TELEVISION LECTURES OF ABOUT 50 MINUTES. ANALYSIS REVEALED THAT TEACHER FEEDBACK HAD NO SIGNIFICANT EFFECT ON LEARNING AND THAT STUDENT ATTITUDE TOWARD TELEVISION INSTRUCTION WAS NOT AFFECTED BY TEACHER FEEDBACK. (JC)

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TITLE VII
PROJECT NUMBER 749096
NATIONAL DEFENSE EDUCATION ACT OF 1958
GRANT NUMBER 749096

THE AMERICAN UNIVERSITY, Grantee

The research reported herein was supported by a Grant from the
U. S. Department of Health, Education, and Welfare
Office of Education

ED 003570

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ACKNOWLEDGEMENTS

I am greatly indebted to the many members of the staff and faculty of The American University for their help, encouragement and invaluable criticism during the preparation and execution of the research reported herein. The administrative officers of the University gave me their full support and cooperation. Dr. Donald Derby, Vice-president and Dean of Faculties, was particularly helpful in making facilities and personnel available and lent his support, his interest, and his encouragement throughout the project.

Mr. Merrill Ewing, University Controller, Mr. Maynard Young, Asst. Controller, and his predecessor, Mr. Clifford Kendall, contributed patiently and significantly to the financial administration of the project. Mrs. Patricia Schiller, Head of Psychological Counselling Services of the University, made her files, materials, and staff available to us and offered training to our testing personnel. Miss Lois Torrence, University Registrar, and her staff, helped us substantially by making files and records available.

Dr. Jack H. Yocum, Chairman of the Department of Speech Arts, gave much helpful encouragement and support and generously assumed additional work in order to relieve me of administrative tasks. I appreciate the counsel of Dr. Donald Williams, of the same department, who gave me the benefit of his long experience in the field and patiently tranquilized my frayed nerves.

There are many others whose help I must acknowledge. Miss Susan Strand, Miss Barbara Lowden, Miss Margaret Moore, and Mr. George Loos, all undergraduate assistants, worked tirelessly. Without them, we could not have met our schedules. The list is much longer but the space here is limited.

Congratulations and gratitude are extended to the professional staff of the project for their excellent contributions to the project. Their names are listed below.

Finally, I am grateful for the enabling grant from the U. S. Office of Education and, in particular, I'm thankful for the information and cooperation tendered by Dr. Kalmer E. Stordahl, Research Coordinator of the Educational Media Branch.

December 11, 1961 D. E. W.

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I

INTRODUCTION

General Considerations

Leavitt and Mueller,[1] in an attempt to experimentally demonstrate the effects of feedback on communication, concluded among other things that: 1) within narrow limits feedback increases accuracy of transmission and 2) though the obtaining of feedback is costly as to time, difficulty in receiving the communication is decreased. Such conclusions would tend to substantiate the widely held notion in communication theory that some "return" from the receiver of a message is essential to full and effective communication.

In fact, there is considerable acceptance in behavioral disciplines for the idea that a dimension of human interaction is a "feeding-back" to the organism of data from the environment. Such data is the cyclical counterpart of the organism's own behavior.

In an elementary sense, the principle of feedback can be inferred from consideration of the development of certain motor skills in the infant. Suppose a six-months old child is learning to grasp objects. He gropes, more or less at random, until he succeeds in clutching the object. His senses will tell him he has achieved his goal and it will not be long before he is able to sort out the productive manipulations from the unproductive ones. One can adopt the point of view that his sensory feedback, which signaled that he had reached his goal, was a critical step in the learning process. Norbert Weiner has characterized this process as "the scanning of behavior for success or failure in order to determine how to modify future behavior".[2]

---

1. Leavitt and Mueller, "Some Effects of Feedback on Communication", in A. P. Hare, E. F. Borgatta, and R. F. Bales, ed., Small Groups: Studies in Social Interaction, New York, Alfred A. Knopt, Inc., 1955, p. 414
2. Norbert Wiener, The Human Use of Human Beings, Boston, Houghton Mifflin Company, 1950, p. 60

The behavior of a public speaker (or a classroom lecturer) is held to depend in part on the feedback signals he gets from his audience.[3] The presumption is that a communicator can be more effective if he is able to continuously monitor the degree to which he is successful and locate the source of his failures. He is then in a position to make adaptive responses that will aid in the communication process.

One further assumption is made in the present experiment. It is assumed that teaching (lecturing) is essentially identical to any communication situation which is message-centered. Thus, if successful communication results in an understanding of the content communicated, learning has occurred. The amount of such learning could then be measured as the amount of content understood or assimilated.

Feedback in Television Teaching

The modes of obtaining feedback in television teaching are several. Their variety ranges from "write-in" responses from the audience, as a sort of delayed feedback device, to the more direct and immediate technique of using a classroom microphone for sending messages to the television teacher. The effectiveness of the latter technique was studied by Carpenter and Greenhill.[4]

Groups with microphone feedback devices were compared with groups without any opportunity for immediate feedback in two ways: 1) in terms of learning, and 2) in terms of attitude toward teaching with television. On the first criterion no significant differences were found. It was found, however, that students had significantly more positive attitudes toward televised teaching when they had an opportunity to respond directly.

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3. Elizabeth G. Andersch and Lorin C. Staats, Speech For Everyday Use, New York, Rinehart and Company, Revised Edition, 1960, p. 51
4. C. R. Carpenter and L. P. Greenhill, An Investigation of Closed-Circuit Television for Teaching University Courses, Pennsylvania State University, Spring, 1958, Report number two, pp. 47-49

In fact, Carpenter and Greenhill concluded, "...a two-way communication system may have importance in gaining acceptance for the use of television".[5]

Hallonquist[6] discusses an electrical signal device developed by Lazarsfeld and Stanton which was designed to record virtually instantaneous listener responses to radio broadcasts. Since the Lazarsfeld-Stanton instrument was developed a variety of audience response indicators have been devised and used. Twyford[7] lists fifteen "...audience response recorders and analyzers". Among them are the film analyzer used at Pennsylvania State University and the Wisconsin University Sequential Sampling Audience Analyzer, developed by Brockhaus and Irwin. The latter device was used to obtain a record of audience degrees of interest.[8]

Still another technique of obtaining feedback is through the use of a studio class. Nominally, the class in the studio is representative of the viewer class and can provide the instructor with a rough approximation of feedback from the viewer class.

The Present Experiment

The experiment herein reported sought to investigate the relative effectiveness of microphone talk-back, vicarious feedback, and electrical signal feedback.

The electrical signal device developed for this experiment is described below.

Each student had a box in which were mounted four spring-loaded buttons. Each button was labeled to describe various conditions of understanding on the part of the student. Each label had a studio counterpart which consisted of four differently colored lights, mounted on a panel, which were labeled with instructions to the teacher. These

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5. Ibid.
6. Tore Hallonquist, " 'Big Annie' Goes to Work", Advertising and Selling, XXXVIII, (August, 1945), p. 69
7. Loren C. Twyford, "Profile Techniques for Program Analysis", Audio Visual Communication Review, II (1954), pp. 243-262
8. Herman H. Brockhaus and John V. Irwin, "The Wisconsin Sequential Sampling Audience Analyzer", Speech Monographs, XXV, No. 1, (March 1958) pp. 1-13

instructions corresponded to viewer responses. A mixer integrated signals and transmitted them to the instruction panel. The mixer circuits were "loaded" so that no response was transmitted which was not held in common by one-fifth of the viewers, within a viewer controlled time-period. Two double recording milliammeters were installed in the mixer to provide a graphic record of all responses, whether they were transmitted or not.

The design features of the electrical signal device conformed to the following theoretical considerations: too many interruptions will thwart the teacher who must conform to relatively rigid time limits; it is presumably desirable to make the teacher more sensitive to viewer response during the lecture; specific criticism of too wide a variety would tend to rattle a teacher and defeat attempts at adaptation.

The three techniques were studied in terms of their relative effects on learning, retention, and attitude toward televised instruction.

II

METHOD

Hypotheses

The hypothesis tested in this experiment can be divided into two classes: 1) learning hypotheses, 2) attitude hypotheses. All are stated as null hypotheses.

I. Learning hypotheses

A. Televised instruction which provides for no immediate communication from student to teacher is as effective as televised instruction which provides for interruption for student questions or comments via a talk-back microphone.

B. Televised instruction which provides for no immediate communication from student to teacher is as effective as televised instruction which provides a sample of student response through a studio class.

C. Televised instruction which provides for no immediate communication from student to teacher is as effective as televised instruction which provides a general student response by electrical means.

D. Televised instruction which provides a general student response via electrical means is as effective as television instruction which provides a sample of student response through a studio class or one which provides for interruption for student questions or comments via a talk-back microphone.

E. Televised instruction which provides a sample of student response through a studio class is as effective as televised instruction which provides for interruption for student questions and/or comments via a talk-back microphone.

II. Attitude hypotheses

A. Students feel that the teacher's effectiveness and acceptability are the same in televised instruction which does not provide for communication from

student to teacher as in televised instruction which does provide for communication from student to teacher via: (1) a sample of student response through a studio class; (2) a talk-back microphone; or (3) an electrical signal system.

B. Students feel that televised instruction with opportunity for feedback contributes to learning, interest, and enjoyment in the same degree as televised instruction where no feedback is possible.

C. Student's acceptance or non-acceptance of televised instruction is not affected by the introduction of televised instruction which includes one of the following: (1) a sample of student response through a studio class; (2) a talk-back microphone; or (3) an electrical signal feedback system.

Selection of Subjects

In order to test the hypotheses, eighty subjects were selected at random from among the total, full-time, undergraduate enrollment at The American University (Spring, 1961), Washington, D.C. Random selections were made from a table of random numbers. Twenty subjects were subsequently assigned, again by random techniques, to each of four groups.

Group A was designated control. The situation included conventional televised instruction through a closed-circuit system. No opportunity for immediate communication from student to teacher was available.

Group B was designated "vicarious feedback". In this group students had no direct means of communicating with the teacher but were theoretically represented by a studio class.

Group C was designated "microphone feedback". In this group, students could comment or ask questions via a talk-back microphone installed in the viewing room.

One of the electrical signal circuits was used to signal the teacher that a viewer wished to comment or ask a question.

Group D was designated "electrical signal feedback". In this group the electrical signal feedback device (described in detail on page 3 of this report) was used to provide students with a limited capacity for immediate and direct communication with the teacher.

It was hoped that fifteen of the twenty subjects in each group would participate throughout the experiment. However, only twelve subjects were present for all lectures in each group. In groups where more than twelve subjects attended all lectures, excess data was eliminated at random. If a subject in any group failed to attend all lectures, he was encouraged to attend the balance of the lectures but data from such subjects were arbitrarily eliminated. It was apparent from subsequent questioning that some subjects failed to attend all sessions for a variety of "ordinary" reasons such as illness, forgetfulness, unexpected employer demands, etc.

It was necessary to select a total of 240 students before a complete complement of eighty, who said they would cooperate, was obtained. Data on all 240 was obtained from admissions office records. Comparison of such items as sex, religion, IQ: College Board Scores, high school class standing, college class level, quality point average, economic class, etc., revealed no systematic bias that would distinguish those who were willing to cooperate from those who were not. Since the comparison data seemed to include all relevant categories from which a bias might obtain, it was concluded that the sample obtained should not be deemed biased simply because it was composed of a minority who agreed to cooperate while a majority did not care to cooperate.

The studio class was made up of five additional subjects, selected at random, who agreed to participate for that particular phase of the experiment. Data from this group were not deemed central to the experiment.

The Physical Set-up

A closed-circuit video installation at The American University was used. The facility includes a three-camera image-orthicon chain. The whole closed-circuit system is located in the Communications Building on the University's Uptown Campus. Figure 1 is a sketch of the layout of the viewing room and Figure 2 is a sketch of the TV studio.

Figure 1.

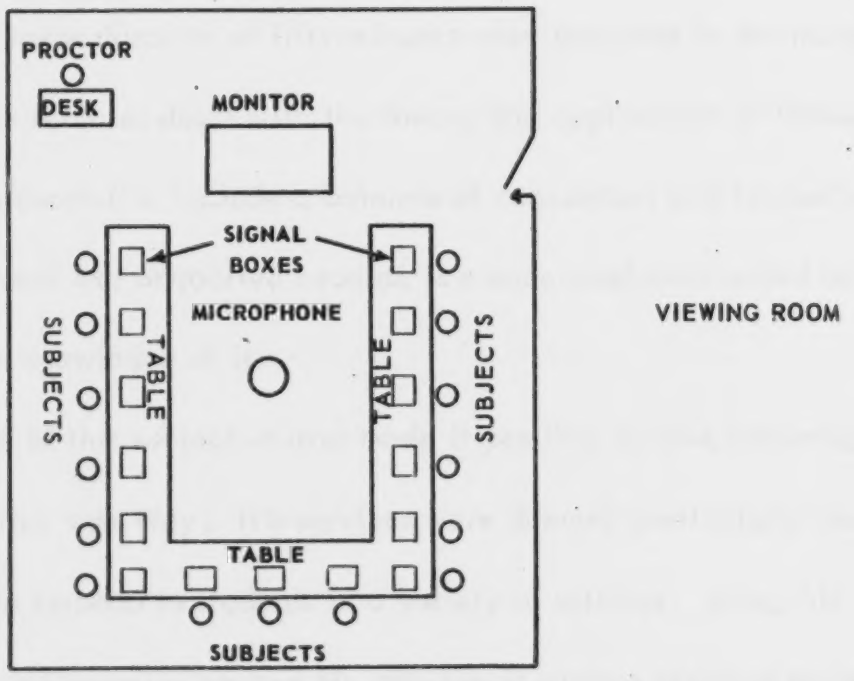
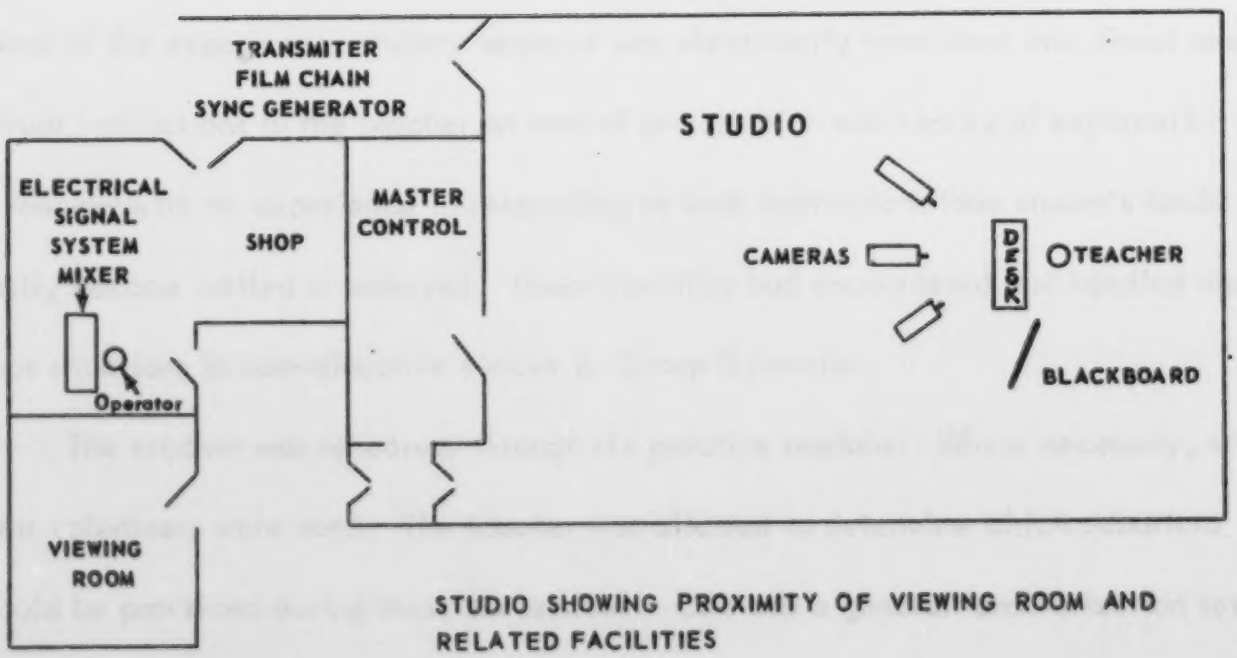


Figure 2.



STUDIO SHOWING PROXIMITY OF VIEWING ROOM AND RELATED FACILITIES

The plant and facilities were more than adequate for the experiment and no significant difficulties with equipment were encountered during the experiment. A technical report by Mr. Roger Penn, Research Associate and Design Engineer on the project, is included in the appendix to this report.

Subject-matter and Teacher

Five lectures of a maximum duration of fifty minutes were prepared in the months prior to the experiment. The lectures dealt with the theory and application of Group Dynamics. The teacher was careful to include a balance of conceptual and factual material. The subject-matter used was attractive because few undergraduates would be expected to have much prior knowledge of it.

Furthermore, selection of this subject-matter made it possible to take advantage of the services of Dean Charles Van Way. His services were deemed particularly desirable because of his ability to respond to students in a variety of settings. Also, his experience in teaching Group Dynamics assured his stability if student response during the "electrical feedback" experiment should become too demanding. In this particular phase of the experiment, student response was electrically translated into direct and abrupt instructions to the teacher on rate of presentation and clarity of explanation. A teacher with no experience in responding to such instructions from students could easily become rattled or annoyed. Dean Van Way had encountered and handled analogous situations in non-directive classes in Group Dynamics.

The teacher was rehearsed through six practice sessions. Where necessary, student volunteers were used. The teacher was allowed to determine which situations would be practiced during these six sessions. One was a general familiarization session; one was a simulation of control circumstances; one was a simulation of microphone

feedback; and three were simulations of electrical signal feedback. It was felt that the practice sessions would smooth out the actual experimental lessons and mitigate "practice effects" on learning measurements.

Procedure

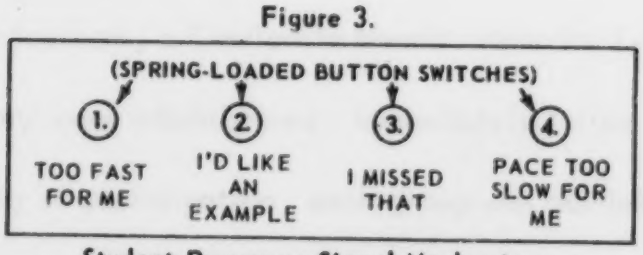
Each of the four groups were run in consecutive weeks. The first week was for control, the second week was for vicarious feedback, the third week was for microphone talk-back and the fourth week was for electrical signal feedback. This was planned according to order of difficulty for the teacher. The assumptions were that teaching with no necessity for response was easier than teaching a studio class; that teaching a studio class was easier than responding to microphone talk-back, etc. Thus, it was hoped that the teacher would become increasingly more capable as his task became more difficult. Also, increased skill met by increased difficulty would mitigate any remaining practice effect on learning measurements.

In all groups students were instructed to take notes or follow whatever procedure was helpful to them in understanding and assimilating the material presented. They were told that they would be tested on the material covered immediately following the fifth lecture. They were asked to cooperate by following the same procedures that they would follow in a credit course and that they were expected to do their best. They were told that study outside of "class" was permissible provided they confined their study to notes taken from the lectures. No group was apprised of the experimental conditions under which other groups would operate. All were asked not to discuss the procedures in their section with participants assigned to other sections.

In Groups A and B these were all the instructions given. In Group C, additional instruction was given in the use of the microphone talk-back system and subjects were

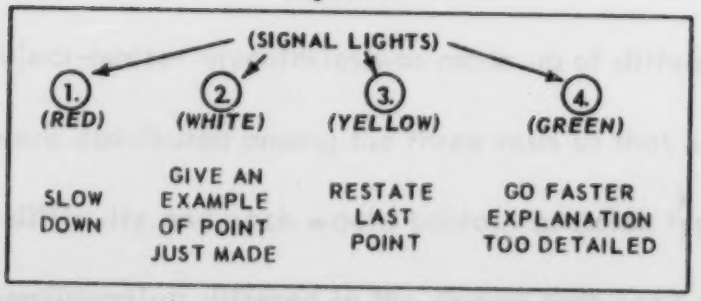
encouraged to use it. In Group D, additional instruction was given in the use of the electrical signal feedback system. Subjects were told to regard the labels of signal buttons as words which described their state of understanding, interest, and ability to keep up with the lectures. They were told that their responses would be transmitted to the instructor if a "sufficient" number of subjects shared their response. They were not told how many responses were necessary for transmission nor were they told that the signals given the teacher would be in the form of instructions for modifying presentation. They were instructed to release the response button when they felt their response had been answered or when they felt their response was not going to get an answer. Thus, the subjects controlled the time interval during which responses could accumulate to a level necessary to transmission. Figures 3 and 4 show the labels used for the signal circuits.

Figure 3.



Student Response Signal Mechanism

Figure 4.



INSTRUCTION PANEL FOR NOTIFYING TEACHER OF STUDENT RESPONSE

[Numbers correspond to numbers of buttons on student response signal mechanism]

In all sessions, a proctor was present to answer questions regarding procedure or meet any emergency situations. Proctors did not furnish repetition or interpretation of lecture content.

The teacher was instructed to present the content of the prepared lectures. In order to animate the presentation as much as possible, however, the teacher used an extemporaneous delivery and moved appropriately from desk to illustration board, etc. This resulted in some deviations from the prepared manuscript. All lectures were tape recorded, therefore, and content analysis was done on the deviations. No lengthy or consequential departures from prepared content could be discovered. Neither were there any perceivable differences in clarity of expression.

Method of Collecting Data

Each subject was administered four tests and an attitude questionnaire. A week before exposure to the lectures, a California Mental Maturity Test, adult scale, and a subject-matter inventory were administered. Immediately following the fifth lecture, on the fifth and last day of participation, each group was administered another subject-matter inventory. Also, at this time, each subject filled out an attitude questionnaire. Four weeks later each subject completed another subject-matter inventory.

Each of the subject-matter inventories was made up of different questions. However, the questions were distributed among the three tests so that each would be of apparently comparable difficulty and each would contain question types of equal variety.

The attitude questionnaires differed to the degree that each sought information about the appropriateness of the unique conditions of each group. Subjects were not asked to sign the attitude questionnaire but proctors coded and later identified the questionnaires.

III

RESULTS

The focus of the experiment was on analysis of data obtained from the first learning measurement taken, designated the post-subject-matter inventory (post-SMI). Analysis of covariance was performed on this data to increase precision in the handling of the null hypothesis by adjusting criterion measurements for individual differences among the subjects.

To simplify analysis of secondary data, the attitude data and the delay-subject-matter inventory, analysis of variance was applied. Had significant results been obtained with analysis of variance of the delay-SMI data, it would have been appropriate to attempt to discover if this were a function of individual differences among the subjects. This, however, was not the case.

Analysis of Data

A. Covariance Analysis:[1] Scores were in terms of per cent of correct answers. Since 100 per cent was a different quantity correct in each case, scores were transformed to comparable arc sine values.[2]

The following tables show analysis of the I.Q. (XI), pre-SMI (X2), and post-SMI (Y) without taking into account the effect of X scores on Y scores.

---

1. Tables of measurements and calculations are shown in Appendix I, A through E.
2. Wifrid J. Dixon and Frank J. Massey, Jr., Introduction to Statistical Analysis, New York, McGraw-Hill Book Company, Inc., 1957, (second edition) p. 183. Values were obtained from Snedecor's table as reproduced in J. P. Guilford, Psychometric Methods, New York, McGraw-Hill Book Company, Inc., 1954 (second edition) pp. 574-576

TABLE 1

Significance of differences among the X_1 (I.Q.) means

Source	s.s.	d.f.	m.s.	F	P
Between	1092.000	3	364.000	2.82	.05
Within	5674.000	44	128.950		
Total	6766.000	47			

TABLE 2

Significance of differences among the X_2 (achievement pre-test) means

Source	s.s.	d.f	m.s.	F	P
Between	3.900	3	1.300	0.058	> .05
Within	987.300	44	22.440		
Total	991.200	47			

It might be noted that the reciprocal, F = 17.24, with inverted degrees of freedom has a probability of occurrence by chance between .05 and .01

TABLE 3

Significance of differences among the Y (criterion) means

Source	s.s.	d.f.	m.s.	F	P
Between	145.500	3	48.500	1.42	> .05
Within	1506.000	44	34.23		
Total	1651.500	47			

Significant differences found among the groups on I.Q. scores did not seem to manifest themselves in achievement scores on tests dealing with the subject-matter of this experiment. There was, however, a significant correlation (p.01) between X1 and Y scores, between X2 and Y scores, and between the best linear correlation between X1 and X2 and the criterion, Y, scores. The analysis follows in Tables 4, 5, and 6. The correlation co-efficient for X1 and Y is .467, for X2 to Y is .525 and the multiple correlation co-efficient for X1X2 to Y is .428.

TABLE 4

Significance of the Regression of X1 to Y

Source	S.S.	d.f.	m.s.	F	P
Between	469.410	1	469.410	19.47	< .01
Within	1036.590	43	24.100		
Total	1506.000	44			

TABLE 5

Significance of the Regression of X2 to Y

Source	S.S.	d.f.	m.s.	F	P
Between	416.950	1	416.950	16.47	< .01
Within	1089.050	43	25.320		
Total	1506.000	44			

TABLE 6

Significance of the Multiple Regression of X1X2 to Y

Source	S.S.	d.f.	m.s.	F	P
Between	899.442	2	449.720	31.42	< .01
Within	601.158	42	14.310		
Total	1506.000	44			

When the post-test achievement scores (Y criterion) are adjusted for the initial differences in I.Q. scores (X1), the analysis shows significant difference among the group. The data are presented in Table 7.

TABLE 7

Significance of Difference Among the Y Means in the Statistical Independence of X1

Source	S.S.	d.f.	m.s.	F	P
Between	248.250	3	82.750	3.35	< .05 > .01
Within	1036.590	42	24.680		
Total	1284.870	45			

Performing the same analysis as in Table 7 but adjusting for the pre-test achievement scores (X2) rather than I.Q. (X1) does not influence the difference among the means of the post-test achievement scores.

TABLE 8

Significance of Difference Among the Y Means in the Statistical Independence of X2

Source	S.S.	d.f.	m.s.	F	P
Between	116.570	3	38.860	1.50	>.05
Within	1089.050	42	25.930		
Total	1205.620	45			

If X1 and X2 are put together and adjustment is made for their effects on Y and for the effects of X1 and X2 on each other, a difference among the groups on the Y scores is not indicated.

TABLE 9

Significance of Difference Among the Y Means in the Statistical Independence of the Best Simultaneous Linear Combination of X1 and X2

Source	S.S.	d.f.	m.s.	F	P
Between	181.746	3	60.58	2.76	>.05
Within	899.442	41	21.94		
Total	1081.188	44			

B. Delayed Measurements: Scores from the delay-subject-matter inventory (Y_D) are presented in tabular form in Appendix I-F. Analysis of variance of these scores is summarized in Table 10.

TABLE 10

Significance of Difference Among the Y Means

Source	S.S.	d.f.	m.s.	F	P
Between	101.08	3	33.69	1.16	>.05
Within	1150.33	40	28.76		
Total	1251.41	43			

(one d.f. less in this analysis reflects the necessity to randomly eliminate one subject's data from each group on account of failure of one person to take the delay-SMI: n=11)

C. Attitude Measurements: The attitude questions were divided into four categories. An attempt was made to cluster questions in a homogeneous fashion within appropriate categories. Then, values were assigned to each question and scoring was performed. Higher scores in each case represented more positive attitudes toward each of the following categories:

I. Estimate of Teacher's Effectiveness

II. Estimate of Personality Attractiveness of Teacher

III. Value of use of a Feedback System

IV. Attractiveness of Televised Teaching

Eight questions pertained to category I, two questions pertained to category II, three questions pertained to category III, and one question pertained to category IV. Analysis of variance was performed on data obtained in each category. These analyses are summarized in Tables 11, 12, 13, and 14. Transformed scores appear in tabular form in Appendix I-G.

TABLE 11

Significance of Difference Among the Groups in Category I

Source	S.S.	d.f.	m.s.	F	P
Between	432.43	3	144.143	1.40	> .05
Within	5319.9416	52	102.307		
Total	5752.3716	55			

TABLE 12

Significance of Difference Among the Groups in Category II

Source	S.S.	d.f.	m.s.	F	P
Between	1053.760	3	351.2533	5.05	< .05
Within	3616.330	52	69.545		
Total	4671.090	55			

TABLE 13

Significance of Difference Among the Groups in Category III

Source	S.S.	d.f.	m.s.	F	P
Between	910.04	3	303.346	4.77	< .05
Within	3305.174	52	63.561		
Total	4215.214	55			

TABLE 14

Significance of Difference Among Groups in Category IV

Source	S.S.	d.f.	m.s.	F	P
Between	419.04	3	139.68	.83	> .05
Within	8773.388	52	168.72		
Total	9192.428	55			

Tables showing transformed scores in arc sine equivalents appear in Appendix I-H. Subjects in the control group (no feedback) and in the electrical signal feedback group seemed to have the most favorable attitudes. The electrical feedback group had most favorable attitudes toward the value of the use of a feedback system, except in Category III. In that category it was slightly less favorable than the control group. Group C, the microphone talk-back group had the least favorable attitudes except in Category IV, the attractiveness of televised teaching. In that group it was second to the electrical feedback group.

In Category IV, the attractiveness of televised teaching, the largest difference between means existed between the control group (no feedback) and the electrical feedback group. Means of all groups in each category are presented in the table in Appendix I-G.

Conclusions:

The foregoing analysis presents two general conclusions: (1) under the conditions of this experiment, there seems to be no basis for deciding that the providing for student to teacher feedback had any significant effect on learning or on retention of learning; (2) under the conditions of this experiment there is no consistent evidence that student attitude toward televised instruction is significantly effected by providing for student to teacher feedback.

(1) With $p = .05$ as a level of confidence, the data failed to show a basis for rejecting the following learning hypotheses: I, II, III, IV, and V. This applies to the hypotheses both in terms of immediate post-treatment measurements and in terms of delayed measurements, i.e., no significant differences were observed in retention of learning.

(2) The attitude data showed that student estimates of the teacher's effectiveness were not significantly altered when provision for feedback was made. The same is true of the students' acceptance of televised instruction based on a question which asked students to make a mental comparison between what they had just experienced and non-televised instruction. This was in contrast to a significant preference for televised instruction which provides an opportunity for student to teacher feedback. One might speculate that the subjects were willing to accept televised instruction, in general, and thus their acceptance of it under mildly modified conditions would not be affected. While, on the other hand, if they had a choice, they would prefer a system which permitted some sort of response to the teacher.

The other area of attitude which showed significant differences had to do with the impression the teacher's personality made on subjects. The questions had to do with the

teacher's appearance and whether or not he seemed to be the type of person subjects would like. These questions were included as an indirect method of assessing the teacher's effectiveness. However, the direct questions on this subject showed no significant differences. It would appear necessary, therefore, to obtain clarifying data before a meaningful interpretation of this particular attitude can be made. It would be interesting, for example, to do another analysis after the questions asked were regrouped into more definitive categories.

The present experiments, therefore, failed to demonstrate the theoretical significance of feedback in communication. This experimenter is inclined to think that additional inquiry should be made into the precise theoretical formulation of circumstances under which feedback enhances the effectiveness of communication.

For example, the experiment reported here did not attempt to control for level of complexity or for familiarity of subjects with the bases on content. It would be useful to investigate feedback systems using subject-matter of a variety of levels of difficulty and using a subject which involved a system of symbols relatively unfamiliar to students.

It is not believed that the results reported herein, should be taken as a basis for rejecting feedback theory. It is true that these results are consistent with the experience of other experimenters. Nevertheless, the apparent plausibility of the feedback notion would suggest that the experimenters lack sufficient empirical insight into the subject to warrant the broad and general experimental conditions devised to test the theory.

Table of I.Q. Scores (X1), Pre-Experiment Subject-Matter Inventory (X2), and Post-Experiment Subject-Matter Inventory (Y)

Group A

Control

X1	X2	Y
136	40.57	45.97
128	43.85	57.17
135	39.47	50.94
142	41.67	50.94
135	52.83	59.41
112	31.24	45.00
138	39.47	54.03
127	31.24	45.97
105	38.29	36.99
115	42.76	54.03
123	40.57	46.95
110	32.46	42.02

Group B

Microphone Talk-back

X1	X2	Y
120	42.76	51.94
133	41.67	47.98
127	40.57	49.89
128	40.57	48.91
112	40.57	42.02
122	30.00	42.02
119	37.17	45.97
122	41.67	44.03
100	36.03	44.03
105	38.29	41.03
106	38.29	44.03
111	38.29	50.94

Group C

Vicarious Feedback

X1	X2	Y
96	31.24	29.47
141	45.00	55.06
125	43.85	55.06
112	36.03	57.17
121	38.29	47.98
103	41.67	48.91
113	40.57	51.94
134	33.65	53.01
113	38.29	50.94
112	41.67	42.02
118	43.85	59.41
113	40.57	55.06

Group D

Electrical Signal Feedback

X1	X2	Y
103	38.29	48.91
126	43.85	56.11
125	39.47	57.17
104	39.47	45.97
117	42.76	45.00
102	30.00	50.94
100	30.00	45.00
116	42.76	50.94
103	38.29	51.94
106	41.67	48.91
122	43.85	51.94
124	42.76	48.91

Table of Sum of Deviations Squared and Cross Products

		Total	Within	Between
	Σx_1^2	6766.000	5674.000	1092.000
	Σx_2^2	991.200	987.300	3.900
	Σy^2	1651.500	1506.000	145.500
	$\Sigma x_1 x_2$	1113.000	1097.000	16.000
	$\Sigma x_1 y$	1575.000	1632.000	57.000
	$\Sigma x_2 y$	664.800	641.600	23.200
X_1	$\Sigma(y - \hat{y})^2$	1284.870	1036.590	248.280
X_2	$\Sigma(y - \hat{y})^2$	1205.620	1089.050	116.570
X_1X_2	$\Sigma(y - \hat{y})^2$	1081.188	899.442	181.746

Table of Sum of Deviations Squared and Cross Products by Groups

Group	Σx_1^2	Σx_2^2	Σy^2	$\Sigma x_1 x_2$	$\Sigma x_1 y$	$\Sigma x_2 y$
A	1687.0	401.7	464.6	379.9	557.0	311.0
B	1155.0	130.1	155.2	115.1	195.6	70.1
C	1680.0	197.2	717.9	212.9	634.6	206.6
D	1155.0	257.8	167.6	390.8	245.0	53.4

Table of Analysis of Homogeneity of Variance

Group	$\bar{X}_1$	$\bar{X}_2$	$\bar{Y}$	$^{o}X_1^2$	$^{o}X_2^2$	$^{o}Y^2$
A	125.5	39.54	49.12	140.58	33.08	38.56
B	117.1	38.82	46.07	92.34	10.60	12.06
C	116.8	39.56	50.50	128.40	16.17	60.07
D	112.3	39.43	50.15	103.70	21.55	13.46
Total	117.9	39.34	48.96	144.90	20.37	34.20
			F_{max}	1.52	3.12	4.98

$p >$ .05 for all three F_{max} ratios

Test of homogeneity of within-groups regression

Source	s.s.	d.f.	m.s.	F	p
Diff. among group regressions	133.742	5	26.748	1.258	> .05
Deviations from individual group regressions	765.700*	36	21.269		
Within	899.442	41			

* Calculation of deviation from individual group regressions as follows:

Group	s.s.	new d.f.
A	171.8	9
B	100.5	9
C	384.7	9
D	108.7	9
Σ	765.7	36

Regression and Correlation Coefficients

Correlation coefficients:

$r_{x1y} = .467$

$r_{x2y} = .525$

$r_{x1x2} = .428$

Regression coefficients:

$b_{y1.2} = .1502$

$b_{y2.1} = .5021$

Regression Coefficients by Groups

Group	$b_{y2.1}$	$b_{y1.2}$
A	.5870	.1980
B	.4267	.1268
C	.7411	.2838
D	- .2347	.2916

Multiple Correlation Coefficient

$R_{1.23} = .589$

Table of Delayed-Subject Matter Inventory Scores (Y)

A	B	C	D
44.03	49.89	34.94	44.03
53.01	46.95	48.91	48.91
46.95	46.95	51.94	53.01
48.91	49.89	51.94	47.98
56.11	36.99	50.94	38.00
49.89	41.03	50.94	36.99
50.94	39.00	47.98	42.02
35.97	47.98	42.99	46.95
45.97	40.05	48.97	51.94
40.05	45.97	50.94	46.95
39.00	38.00	48.91	47.98

(scores have been transformed to arc sine values)

Tables of Attitude Measurements
(arc sine transformations)

Category I

A	B	C	D
58.89	63.44	28.86	67.21
54.76	56.79	41.15	65.27
50.77	54.76	75.00	60.00
54.76	61.14	45.00	58.24
58.89	52.71	63.44n	55.24
56.79	65.88	63.44	71.56
48.85	63.44	52.71	55.24
71.56	56.79	39.23	55.24
79.69	71.56	46.89	63.44
65.88	61.14	65.88	63.44
65.88	71.56	46.89	49.31
63.44	71.56	63.44	67.21
41.15	37.29	68.61	74.11
52.71	58.89	54.76	52.24
X 58.86	60.50	53.95	61.27

Category II

A	B	C	D
63.44	56.79	45.00	71.56
63.44	63.44	56.79	63.44
56.79n	90.00	50.77	56.79
63.44	56.79	45.00	71.56
56.79	45.00	56.79	71.56
71.56	56.79	39.23	90.00
71.56	56.79	56.79	63.44
71.56	63.44	56.79	56.79
63.44	63.44	56.79	56.79
56.79	56.79	63.44	50.77
56.79	56.79	56.79	56.79
56.79	56.79	56.79	56.79
63.44	63.44	56.79	71.56
63.44	56.79	45.00	63.44
X 62.81	60.22	53.05	64.38

Category III

A	B	C	D
58.89	57.48	31.95	62.24
75.00	52.06	50.77	62.24
63.44	41.78	58.05	65.88
50.77	50.77	60.67	50.77
54.76	54.76	43.85	65.88
63.44	52.06	55.55	64.67
35.24	44.37	50.77	47.87
50.77	56.11	55.55	44.03
68.61	54.76	48.45	57.89
58.89	57.48	36.87	56.79
58.89	58.89	50.77	55.73
63.44	58.89	58.05	56.79
63.44	50.77	46.15	73.26
68.61	45.63	55.55	61.14
X 59.59	52.56	50.21	58.94

Category IV

A	B	C	D
50.77	50.77	50.77	63.44
26.56	39.23	50.77	90.00
39.23	26.56	39.23	39.23
39.23	50.77	90.00	39.23
50.77	50.77	39.23	39.23
39.23	39.23	39.23	39.23
50.77	50.77	39.23	50.77
50.77	39.23	26.56	39.23
39.23	50.77	50.77	90.00
50.77	50.77	50.77	50.77
50.77	50.77	63.44	39.23
50.77	50.77	50.77	39.23
50.77	50.77	50.77	50.77
50.77	50.77	63.44	63.44
X 45.74	46.57	50.36	52.41

GROUP DYNAMICS - A Modern Discipline

INTRODUCTION

1st Session

Why are we so concerned with groups? For that matter, what is a group? Again, what is the significance of the term "dynamics", which occurs so often in our everyday language, in its special context with the word "group"? These and related questions which will arise from our discussion of them, will provide the basis for this series of five lectures on "Group Dynamics, a modern concept".

Our concern with groups stems very naturally from our realization that our lives are spent in groups. Except for occasional intermissions (often we feel that they are too short and too few) we find that most of our activities and practically all of our accomplishments are associated in some way with our interaction with other people, either as a pair, the DYAD, a trio, the TRIAD or as a larger collection of people.

The peculiar genius of Americans is our ability to meet voluntarily in groups in response to self-recognized needs, to solve individual problems of members in relating to one another, to establish group norms, standards and procedures and to move on forward to decision making leading to effective action. We are continually a source of amazement to our foreign colleagues who find it difficult to believe that we actually achieve so many of our civic, educational, religious and economic accomplishments through free group action, sparked by individual creativity and initiative.

Yet we find general dissatisfaction with our collective behavior. Many are the belittling jibes cast in the direction of committees and boards. A committee has been described as an organization which keeps minutes and wastes hours. A board as "something long, narrow and wooden". W. H. Whyte, in his "Organization Man" has complained for nearly five hundred pages about the way the big organization has drained the creative spark out of the individual in our culture with the claim that Americans have somehow forfeited their birthright, their precious individuality which has been the driving incentive behind the creation of our culture. David Reisman, in "The Lonely Crowd" characterizes our society as being predominantly tradition-directed, inner-directed or other-directed.

We find serious and thoughtful administrators rejecting the idea of shared leadership through impatience with time consuming inefficiencies of advisory and policy making bodies. We find general defeatism, even despair, over evidences of apathy in collective bodies of people who could be expected to interest and concern themselves in matters which affect them vitally.

It is this recognition of general dissatisfaction, together with a belief that we still find it necessary to live and work in groups that gives meaning to our concern with what

groups are, how the behavior of their members influences their effectiveness and what we can do about it.

It is the province of psychology to give us some guidance toward understanding the behavior of the individual. Sociology, and cultural anthropology, will shed light on the development and life of the group. We have a concern here, however, with more than a static picture of the group as such.

Since we are concerned with the effectiveness of the group for some practical purpose, such as decision making, action, learning, group therapy or conducting an enterprise, we need to look for the processes within the group which affect the accomplishment of the purposes of the group. In so doing we must make haste to deny a prevailing misconception, exemplified by the works of W. H. Whyte and Reisman, cited above, that the group tends to submerge the individual, exalting "togetherness" at the expense of the individual role. In some interpretations this has tended to make the individual practically inconsequential, if not non-existent. It is our contention that the proper objective of the study of group dynamics is to develop insights into the ways of insuring the identity of the individual while, at the same time, recognizing the importance of the group interaction processes in the achievement of goals collectively recognized and selected.

In this context then we may deal with the questions with which we opened this discussion. In this sense we find that a group must satisfy two criteria. It must be two or more people in a face-to-face situation and each person must be, to some degree psychologically aware of each other person in the group. That is to say, there must be some effective psychological interaction between each member and each other member. As will be developed later, for a group to be truly effective, there must be a mutual recognition of goals which must be achieved by the group in order to satisfy the needs of all of the members.

For example let us consider a number of people meeting at the elevator on the seventh floor of a hotel early on a weekday morning. Except for those who are there in couples or small groups, none know the others. That little mutual trust exists is demonstrated by each person as he arrives, by pressing the elevator call button, despite what could have been an obvious conclusion that those arriving earlier had already pushed it. Some superficial interaction may take place such as morning greetings, or comments on the weather, which none know much about as yet and which probably is of little importance anyway. If the World Series is on this may bring forth some harmless and meaningless remarks.

Yet all are in a face-to-face situation with each other and all presumably have the same goal, to board the elevator and descend to the main lobby, there to go about their several activities. This falls short of a group, in our technical sense, because there is little or no psychology awareness, each of each other, and their goal is not one which must be reached by all in order for any one to reach his goal.

Similarly, a bus load of people heading for a common destination, could be in face-to-face interaction if they wished. Yet they will probably not interact nor will they be concerned with the others in reaching their goals which, in this case, is to arrive at their several destinations.

Suppose now that this bus should run into a heavy snowstorm and perhaps slide off the road to be stuck in a heavy snow-bank. What then would be changed?

Their goal could well become survival, depending upon the hazards of the situation. All would quickly realize that personal safety could well depend on the whole group. A quick inventory would be made for skills for which the situation had created a need. Who could coordinate the efforts of the members toward the goal of security and survival? Was there a physician present to care for the injured? Who knew where they were, and how to communicate with sources of rescue? Who could comfort and support the panicky members? What standards would be established for sharing resources and services?

The procedures of seeking out and recognizing available skills, including leadership abilities, setting standards, making decisions, planning and initiating would quickly become the pattern for the formation of a group.

Emotional stresses might well run high, because of anxieties, rivalries, security needs and frustrations of original plans creating a tensely dynamic situation, which affords a dramatic extreme of what is meant by the word "dynamics" in our title term. It is simply a scientific word borrowed to describe the forces and movements which characterize interaction between people.

About this very simple situation of people interacting in response to their needs, anxieties and expectations many theories have been formulated. Our concern, of course, is with both individual behavior and group performances. But these can be viewed in different ways and varied theories have been advanced to offer insights into the process.

Ralph M. Stogdill considers aspects of performance, both individual and collective; interaction between individuals, and expectations, to represent behavior patterns which may describe group behavior. He sees an organized group as an input-output system in unstable balance. That is to say, he sees member inputs of performance, interactions and expectations operating through functions and status roles to group achievements of productivity, morale and integration. He defines morale as a combination of member satisfaction, group loyalty and enthusiastic effort, although he suggests that one of these may not be regarded always as a measure of morale. In another view, morale is defined as freedom from restraint in action toward a group goal. Again it is described as fighting power and staying power.

Integration, in this theory of group development, refers to the tendency of a group to withstand disruptive forces. It involves formal and operative structures, communication patterns, role expectancies and group standards and goals. Member conformity to

group goals, identity of individual and group goals and standards, fulfillment of personal needs, member support of group organization arrangements are measures of group integration used in this sense.

Other approaches to the analysis of face-to-face groups include a procedural concept involving what has been termed, sometimes in derogation, as "group thinking". This may be thought of as an organized operation by the members through which they identify, define and find solutions for their common problems. One aspect of this procedure deserves special emphasis. It is the importance of building a feeling of permissiveness for people to have problems. This is so often taken for granted that there is a tendency to overlook the fact that people may hold back in discussion or withhold comment because they fear ridicule or other rejection by the group or its leader for having trouble. Not only the leader, but the members as well have a serious responsibility for creating and maintaining a permissive atmosphere or group climate.

Such a climate as one in which the members may express deviant or non-conformist behavior without fear of ostracism or other penalty from the group. Along with this goes a feeling of relaxed comfort and freedom in the group. This is not easy to define and will be referred to from time to time in later lectures.

To carry this operational concept a bit further, we should point out the task of selecting and defining a common problem which can not only be accepted by the group but be used by it as a unifying force. With this common goal in sight, the group must develop procedures which will keep on the target, moving in the direction of the goal. Other aspects of this theory of the group process is the need for the group to gather information, to recognize the realities of its powers and situations, to find ways of evaluating its own behavior and lastly of moving toward and making decisions, and in some cases taking action.

A self-evaluation check list for a group operating under this concept would include questions about the group members' awareness of and ability to identify the problems and goals, formulate standards and plans for action, to create a permissive and warm climate, to achieve sound and acceptable power relationships and lastly about the group's feelings about its own operation.

Herbert A. Thelen has advanced a theory based on patterns of interaction, or processes which may be observed in a group. Six of these have been identified under usual conditions of group problem solving:

1. A common language must exist in the group, with communication channels open.
2. Common norms and standards of behavior must be generally recognized and commonly accepted.
3. Elements of control and coordination must exist of sufficient strength to hold the group together in the face of disruptive forces. This includes leadership arrangements whether fixed or variable.

4. Differentiation of roles of members must be sufficient to enable different people to furnish services needed by the group.
5. Rewards and incentives must be available to the members to keep them interested and active.
6. The group must be able to survive disruptive forces sufficiently to build cohesive forces or solidarity.

A fourth and last concept to be offered will be touched on only briefly since it will be further developed in a later meeting. While this shares many aspects before mentioned, and, indeed, is not in contradiction to any, it is believed to offer better opportunities for analysis and observation by the student.

This analysis, presented by Dr. Kenneth D. Benne and Paul Sheats, involves the dual concept of functional roles of group members and a time phase element of the formation and development of the group. It sets up and describes certain member roles as being those which will serve to satisfy the individual member needs. These roles are sharply in evidence during the several stages of the formation of a group, though they may recur individually at any time and under certain stresses the whole group may regress to such earlier types of behavior.

When the individual has found satisfaction for the needs which causes individually oriented or self-centered behavior, he will tend to move into the second or group oriented phase. When most of the members have reached this condition, a period of group self satisfaction prevails. The roles during this phase are directed toward building and maintaining the group. This phase may be described as a honeymoon period of sweetness and light. All internal conflict is carefully avoided and "Our group is the best there is" becomes the slogan.

When the group finally realizes that it really has a task to do it will move into a period of task orientation. Behavior now becomes centered on doing the job, and productive group action is now possible. This last concept will be more completely developed in the next sessions.

To summarize:

We have stated our reasons for concern with groups in this day of emphasis upon individuality on the one hand with the realities of interdependence on the other. We dealt with some definitions; of groups, of morale, of integration, of climate, of goals and procedures. Several theories have been outlined. Stodgill's concept of performance, interaction and expectations as leading to group productivity, morale and integration was the first. Then the procedural concept described by the much abused term "group thinking" was outlined. Dr. Herbert A. Thelen's theory, based on patterns of interaction was described by enumerating six conditions of group problem solving. Last was cited the dual concept of Drs. Benne and Paul Sheats, in which membership roles varied during several phases in the developing life of the group. These will be developed in more detail in our next lecture titled "The Individual in the Group".

GROUP DYNAMICS - A Modern Discipline

THE INDIVIDUAL IN THE GROUP

2nd Session

It is diversity, not identity; differentiation, not similarity, which characterizes the roles and personalities of the members of a successful group. Although in our organization charts the little rectangles look much alike and our job descriptions are the same for similar jobs, we are, in real life, faced with an astonishing variety of role, attitude, skill and behavior, even among people who might be well classified as "average".

In our first session we reviewed our reasons for interest in groups, some definitions and several theoretical frameworks for the consideration of groups. We proposed to develop our analysis along the ideas developed by Drs. Benne and Sheats, along with Drs. Warren Bennis, H. A. Shepard and others, which describe a series of developmental phases in which member roles go through transitions from self concern, through group infatuation to eventual task orientation, assuming ultimate maturity of the group.

Before proceeding with our examination of the behavior of the individual in his developing group it will be useful to review some of the reasons why people come together in groups. And here we find an almost unlimited number, which of course, greatly complicates our study. Chester Barnard has said that "the number of formal organizations in the United States is many millions, and it is possible that the number is greater than that of the total population". Certainly if we include the sixty million or so families to which we belong, and our definitions of formal is broad, his estimate appears quite modest. We have innumerable ones here on campus, such as classes, clubs, seminar groups, dating pairs, room-mates, committees, floor councils, people who went to high school together, cafeteria card playing or coffee clatches. To extend this beyond the campus boundaries the number obviously becomes astronomical.

The result of all of this is that we cannot describe the group, or the behavior of its members, in any specific setting. Indeed, we find that the behavior of a person is different in the different group environments in which he spends his life. We don't know too much about him when he is really alone but through merely casual observation we know that his behavior is different when he is with his professor, for instance, or at Maggies with the guys. So our treatment will necessarily deal with generalized concepts of what goes on in gatherings which we have recognized as groups, that is, those in which each member has some psychological reaction to each other member and in which all members perceive a common group goal which must be realized in order for each person to satisfy his own personal needs.

These individual needs seem to include survival, security, approval, acceptance, status recognition or other forms of psychic income. These can be satisfied only by interaction in some way with other people. Through membership in groups an individual may achieve goals which are attainable in no way alone.

As an interesting aside let us consider some modern instances of the "lone wolf" or rugged individualist. An airplane pilot must, at least during his early training days, operate in a solo status. But in a real sense he is tied to his ground crew, and abstractly to the company of aviators of which he feels himself a part. In his writings about his experiences in the Antarctic, the late Admiral Richard E. Byrd tells of his months long solitary vigil at an outpost several days journey from his base camp.

His reasons for being alone were in themselves an interesting sidelight on his concept of group interaction. He rejected the pair idea on the basis that they probably could not get along together in the close and isolated confines of the outpost, a mere hole in the ice, in continual darkness at that time. Three people would be worse, for they would form a pair and an isolate. Four would magnify the logistic support problem or of practicability, so one it had to be. He selected himself, since he did not wish to inflict this ordeal, a form of exile, on any of his subordinates.

He vividly describes the degeneration of his personal habits, his cleanliness, eating manners and self care. When he became seriously ill as a result of leaking gas fumes from the heater in his cell, he withheld this information from his people at base camp. They recognized the situation from his altered style of radio transmission and arrived to his rescue in a Hollywood style nick-of-the-time.

His analysis of this whole episode is fascinating to the student of group interaction. Perhaps most interesting is the conjecture on what role he was playing in the group of which he was the titular and actual leader by his attempt at self-renunciation by holding back the news of his sickness. I suggest that he was playing at least two roles, the one, affecting his personal daily behavior, as the man who was in a sense more alone than anyone in modern time and again as a man who, through the magic of radio and the force of his prestige and strong personality, was still in command. But enough of that, let us get on to needs brought to the group by its members.

Modern psychological research assures that behavior has meaning only in a setting involving interaction in a social setting. This setting, in the framework of our discussion, has means for dealing with and satisfying the needs and expectations of people who create it.

Through membership in formative years in the family, the basic group, man has become a social animal and derives comfort, a feeling of well being and security from belongingness as such. Merely being with people who recognize him as belonging is reassuring. This is a fundamental motive for joining groups.

Some go further and wish to influence, or lead or even dominate the groups of which they are members. This is a means for gratifying aggressive feelings. Without the need nor the aptitude for seeking control, human beings seek the opportunity to play the role of or identify with another. Group cohesiveness depends on every member feeling a need to play a role which will enable other members to play their roles successfully to the end that all will be accepted as members, and the group be effective in

moving toward the accomplishment of its tasks. Discussion groups are good examples of this, as also are many other types of hobby or activity clubs such as garden clubs, square dance associations and drama clubs.

The need for social status and prestige may impel people to join activity groups when they don't particularly care for the activity. Hunt clubs have a snob appeal for some who do not particularly care for animals or riding. It has been said that the only thing wrong with a fishing trip to a cabin in the hills is that some fool always wants to go fishing. Again, a paratrooper, when asked whether he liked to make parachute jumps replied in the negative. His explanation was that he liked the kind of men who did like to make parachute jumps. It is not at all unusual for a club to continue on, and to find new areas of activity after the original reason for their formation was ended. Note the existence of many ceremonial cavalry organizations (the Seventh regiment in New York City) and even labor unions and veterans groups whose original task has long since been accomplished.

Often, however, groups do form because there is no other way for members to perform certain activities. Choirs, team athletic contests or bridge clubs may form for this reason. The common thread which runs through all of these evidences of motivation toward group belongingness is that groups do satisfy the desire for self-realization.

Having outlined some of the motivations leading people into group activity, let us examine some of the role behavior of the member as he experiences the interaction in the group. Let us assume the creation of a new group for some purpose involving discussion and decision. Parenthetically, most groups we join are already in being, and continue after we leave. The behavior, however, is sufficiently similar to be usefully discussed under this assumption.

The first sensation of the members is primarily one of anxiety. Each has brought with him consciously or subconsciously recognized expectations. These expectations are concerned with the image the member has of himself in the eyes of others. His reason for joining the group is somehow tied in with a hope to realize these expectations. Yet he is not sure. He is anxious and fearful. He is in an unstructured situation, so far as he knows, an uncharted sea. His strongest motivation is to find some comfortable framework of organization or structure, someone to whom he can relate in an accustomed manner. He is concerned over the leadership of the group. Will it accomplish the objectives he had in joining the group? He looks hopefully toward the nominal leader, perhaps the one who called the group together and seeks signs that things will be done to achieve his goals. He looks to the others to determine who will be helpful and who harmful in fulfilling his expectations. This is a period of tense suspicion and distrust. But the behavior does not directly reveal this under-the-table or covert feeling.

Members may behave openly in this early situation in many ways, depending on their personalities and the way they react to their situation in and reception by the group. We have all, I am sure, observed several common types of member roles displayed in our experiences in groups.

The dominator or power seeker tries to take over, as soon as he realizes that the nominal leader, usually the one who called the group together, will not. He will give directions, interrupt others, flatter the prestige figure or otherwise attempt to establish his expectancy of occupying a dominant position.

Closely related is the aggressor, who may, however, not wish to assume any responsibility. He will criticize, tease, express disapproval of the whole group or individual members and try in many ways to "cut people up".

The recognition-seeker will call attention to himself through name dropping, boasting, telling personal anecdotes and acting in unusual, even bizarre ways, such as coming in late, with much confusion, shuffling papers and so on. The help seeker does the same though with a form of sympathy plea through expression of personal inadequacy.

Closely related to these is the self-confessor who indulges in long-winded citations of his personal convictions, ideologies, feelings and so on, not directly related to the group or its business.

The blocker says it can't be done. He systematically brings up obstacles and persists even they have been accepted or accounted for by the group. For some reason he seems to feel that the group is moving in directions which will not meet his expectations and, while he doesn't want to be expelled from the group, he does want to block the group's activity without assuming responsibility for putting it on the track he wants. Possibly he has a motive he would rather not reveal, or what is called a "hidden agenda".

The playboy, somewhat like the blocker, doesn't feel involved in what the group is doing and wants everybody to know it. He yawns, looks out the window, is ostentatiously bored, sometimes makes sarcastic remarks or indulges in horseplay or irrelevant jokes.

These forms of behavior, though more prevalent during the first stage in the development of the group, may recur during later periods. Also, they are not exclusive to certain personalities since any member may at times indulge in them. They do indicate, however, that a group is exceedingly immature, either because it is new or because it has retrogressed for some reason.

As the group members achieve greater awareness of each other as separate and identifiable personalities, this type of behavior tends to subside, to be replaced by behavior indicating member consciousness of the attractiveness of the group. Membership is now to be cherished and enjoyed. Nothing must be allowed to mar the honeymoon atmosphere of sweetness and light. Expression of approval and support precede most comments and inquiries are made about how much better this group is than other similar groups. Plans are made for a picnic, or to meet for coffee after the meeting.

Here appear the harmonizer and compromiser who compose and explain differences between members to reduce the danger of conflict.

The encourager praises, agrees and accepts the comments of the members. He shows warmth and friendliness and makes the group a big, happy family.

The gate keeper helps the shy to enter the discussion by calling attention to their special knowledge, and encourages them with favorable comments. At the same time he will interrupt trouble makers or people who may upset the peace and harmony of the group, and block the one who talks too much.

The standard setter calls attention to the ideals of the group and encourages the group to better things.

The group-observer and commentator, usually, though not always, self-appointed, keeps more or less orderly accounts of what is going on and reports his interpretation back to the group.

In this stage, as in all, there is always the follower. While everyone, including the leader, must play this role occasionally, some do nothing else. He does have the value of being an audience and occasionally of restraining more violent behavior by his very passive attitude.

Finally, however, the group reaches the stage where it must tackle its main goal. It has relaxed and largely dissipated the anxieties and tensions of the first period. It has found through its expression of mutual esteem, acceptance of each other to the extent that now the members can disagree, without such disagreement being confused with hostility. Skills and roles have been recognized and to an extent have been organized so that they may now be used when needed. Now the group is prepared to work on the task, having gone through the self-centered and the group-oriented phases. The group may now be reaching maturity.

The roles needed have changed also and new ones may be observed at this stage. The initiator-contributor suggests new ideas or ways and means.

The information seeker asks for facts and information needed at the time and relevant to the problem. The information giver answers these questions or on his own, volunteers information relating his own experiences pertinently to the situation.

Similarly the opinion seeker asks clarification of standards and values and the opinion giver answers him, based on the latter's interpretation of group norms and standards.

The elaborator develops, by examples or further detail, the meanings of suggestions made.

The energizer prods the group along when it becomes bored or restless, while the procedural technician performs routine tasks or suggests ways to carry out proposals.

The coordinator pulls the ideas together in a logical framework and puts together the work of subgroups.

The orienter summarizes where the group stands and what is going on. The evaluator-critic places the group performance against the standards and ideals of the group and evaluates the practicality or realism of what is going on.

The recorder keeps written track of what is going on.

Consideration of these member-roles, the latter ones of which have a distinct leadership aspect, have brought us to the point where we may examine the group itself. This we will do in our next session.

In this session we have covered the motivating forces which bring people into groups, the stresses and tensions which face them when they are in groups and lastly, membership leadership roles as displayed by individual behavior in groups. In our next session we will take up a study of what goes on within the group itself.

GROUP DYNAMICS - A Modern Discipline

THE GROUP,
Its Structure and Internal Forces

3rd Session

Despite our insistent claims for the equality of man, we find in this country curious preoccupation with leadership problems, an intense concern about who will be our leaders. On second thought, perhaps it is because of our individuality that we are so concerned, for among those who could not under any circumstances aspire to influence their lot, this concern is replaced to a great extent by apathy.

This sensitivity to leadership and the consequent power structure in the group constitutes the strongest of the common attitudes brought to the group by its members. It is recognized, of course, that leadership may be by a coalition rather than an individual. A child entering the family group finds himself faced with a coalition usually, of the parents, sometimes with older siblings included. Often the group leader has a clique or "palace guard" supporting him. The member must know this leader identity if he is to feel secure. This framework of leadership is what is meant by group structure.

If awareness of this is lacking or confused, the member is anxious or uncertain. The child of parents who are in important disagreement seldom achieves a feeling of security. The group which cannot identify its power lines cannot reach maturity.

Perhaps this is the place to insert a note of caution concerning a rather common misconception about the democratic group. It is often said that a "leaderless group" is the democratic ideal. The concept of "shared leadership" has made its contribution to this illusion as has also the experiences of informal groups, adult as well as juvenile. At times it appears that all share the leadership and that no separate leader exists.

This is illusory or temporary. The need for the ascendent individual is always there, though the individual may not always be the same. His method of leadership may be so unobstructive as to be unobservable by the uninformed. But it is there, none the less. Perhaps the leadership is shared by more than one, but this and the relationships of the members to the structure is realized, accepted and serves as a standard for procedures.

So also is it a fallacy to assume that a group will always achieve a better decision than one person. "Two heads are better than one", cannot be accepted as a valid principle, even with the usual reservations "except on one pair of shoulders". It is just as unrealistic to build the group up for special and unreserved worship as it is to extol the individual beyond his reasonable abilities. Our object in this series is to suggest some aspects of group processes which will help us to improve those activities which are carried on through necessity or by chance, in groups. It is not to make unrealistic claims

for their omnipotence. The democratic ideal, it seems to me, is to learn how to work effectively in groups without sacrificing the individuality we treasure so much.

We have pointed out that people bring motivating forces with them to the group and that these forces and other personality attributes influence the behavior of members in the group. We have also noted that this behavior is strongly modified by forces perceived as operating in the group. We will now go into some of the conditions within the group which are important to its productive operation.

A fundamental truism about the group is that it subsists on communication, verbal and non-verbal, overt and covert and even conscious and unconscious. This quality of communication enables members to receive the data which they need in order to react and respond to the others as individuals. The process of interaction itself is a form of communication. Impressions are received and exchanged often before a word is spoken. Indeed, many people will have a preconceived notion or stereotype of the other members often just by learning what the composition of the group will be. A student being called before a meeting of deans will have most fearful apprehensions. So also a person meeting with a chapter of the League of Women Voters will form a judgment as to what the people will be like. These stereotypes are extreme but to a lesser extent all of us tend to quickly stereotype the others of a group meeting for the first time. Often it will take several meetings for this to be broken down to more realistic appraisals.

So also will the member bring with him an expectation of how the leadership pattern will operate. In a seminar headed by a professor, it is expected that he will assume a familiar role, recognized by the students, with an established pattern of formalities of speech and precedence. Each member also has, from past experience in other like situations, formed an expectation of how he or she will relate to the professor, and to the other students as well.

For more generalized situations, into which the members meet without past experience of a similar kind, members will tend to apply expectations formed on the basis of their own past environment and will attempt to establish an accepted set of norms for the new situation. These norms will have a profound affect on interaction between members, on the interpersonal relations within the group. If we are to understand a group's operation well enough to influence or to help it to improve, as we shall bring out in our next session, we need to learn to be sensitive to these interpersonal relationships, or dynamics operating in the group.

A useful concept in this connection is to think of the "group personality", an elusive quality to be sure, which is most difficult to define. But we have seen cases where we sense that the group has a personality distinct from any of those of the members. It is as though we find fifteen personalities when we have only fourteen members. And the group personality will change with the addition of a new person, or the absence of a regular member. This concept should not lead us into the "group mind" fallacy which says, erroneously, that the group itself can think apart from the members. It is mostly an impression of how the norms of the group will lead the members to behave most of the

time. For example, if a group has achieved a climate of mutual friendliness and respect it will avoid any unfavorable mention of sororities or fraternities, if some members are so affiliated. Religious discussion is frequently taboo in groups of mixed religions for somewhat the same reason.

At the same time, a group norm may be established which will punish a recalcitrant member; one who is overly aggressive or excessively talkative. It will show genuine concern for the withdrawn or shy member unless it learns that the member feels superior to the group and has rejected them. In this case they will work on him to change his attitude, or split to attack and defend him or else to exile him.

This frequently happens to the leader who fails to meet the expectations of the group until they can establish a working relationship with him which is satisfactory. During the fight with and over the leader, a new leader may arise to assume a position and relationship which can be more readily accepted as a group norm. However, a member who attempts to take over from an accepted leader does so at his peril for the group may turn against him.

Norms, like individual personal habits of a routine nature, are extremely valuable in saving time and in sparing us the endless decision making in small acts which would otherwise be required. We follow a general procedure in washing in the morning, in shaving or fixing our hair before we are wide awake. We tend to put on the sock or stocking consistently over the right or left foot without conscious thought. This and other similar personal habits saves us the wear and tear of a thousand and one decisions.

So also it is helpful in interpersonal relationships, in the communicative acts of interaction, if we can follow prearranged patterns. How to behave in a bull session, how to introduce people, how to accept or decline an invitation, each have patterns which fit our personalities and which need not be learned new each time.

But there are dangers to this process of routinized interaction, this system of group norms. Sometimes, although the conditions which raised the need for a custom have changed, the custom may continue on without reason. We have only to look at the buttons of the sleeves of our coats to see an example. A group norm prohibiting a frank discussion of religion may prevent a group from discussing an issue seen to have religious connotation even though the members have enough mutual respect to handle the topic without trouble. A group may avoid discussing racial matters and continue this taboo after minority members have been fully accepted.

The most serious danger to rigid norms arises from the habit groups have of assuming stereotypes. Because a member comes from the South a group may avoid racial discussion. The presence of an expert in the group may inhibit the useful expression of their opinions by other members. The point here is that unless some member is perceptive enough to observe the avoidance by the group of an important issue, and to sense that the reasons for it may not be valid, the group will suffer a loss in efficiency.

A review of five types of group climates growing out of established norms, as described by Branlund and Haiman in "The Dynamics of Discussion" will be useful at this point. The five types of emotional climate, all obviously overdrawn for illustrative purposes are:

The Overly Cooperative
The Overly Competitive
The Anarchic
The Ritualistic
The Interdependent

In the overly cooperative group an artificial sugary atmosphere of "sweetness and light" prevails. Conflict and negative expression is avoided at all costs. Togetherness is rampant. Little will be accomplished.

The overly competitive group lives on conflict. All is business and there is no pleasure, no humor. Young men in such a group will be open and direct in expressing their hostility while women may overlay it with a protective veneer of "sweetness and light". For this reason the sweet type of group should be viewed with the realization that hostility may lie not far beneath the surface.

The anarchic group is described by Barnlund and Haiman as rugged individualism run amuck. There is little communication -- inadequate or laissez-faire leadership. In my concept this probably would not even be termed a group, certainly not a mature one. There is little contact or exchange and group norms are limited to this state of anarchy.

The ritualistic group relies heavily on form and ceremony. The chairman has a silver-trimmed gavel and a gift copy of Robert's Rules of Order. The expression of emotion is not permitted. This group can slowly accomplish some action though decisions are not of high quality and there may be little follow-up.

The interdependent group is regarded by Barnlund and Haiman as the most mature and presumably the most effective of all those cited. Discussion is direct, free and uninhibited. Differences, although frankly aired and vigorously argued, are not resented as being confused with hostility. Tension builds up as the group works hard on the problem but is released with good-humored banter and relaxation. These are people who are dominated neither by traditional parental influence nor the opinions of peers, but who are for the most part able effectively to express their own views.

These five types of climates may identify groups well for the prospective member. For the student, however, who will be concerned with improving group operation, there is need for additional qualitative dimensions.

Stogdill has useful descriptions of productivity, morale, and integration as contributing to group achievement. He considers the measure of group productivity to be the value of the change in goal expectation experienced by the members. Morale he describes as the degree of freedom from restraint exhibited by a group in moving toward

its goal, while integration he regards as the ability of the group to maintain its structure and operating efficiency under conditions of external and internal stress. These various qualitative measures of the group are of value in observing progress toward mature ability to perform tasks effectively.

The factor which seems most frequently to be critical to the health of a group and the element which is mentioned by some term in most evaluations is cohesiveness, or group solidarity, or "esprit de corps". Here there seems to be an inclusion and overlapping possibly of Stogdill's integration closely related to cohesiveness and morale, closely related to "esprit". Sometimes the term "valency" is used in close reference to this, with the meaning of degree of attraction to the group.

It seems to be readily apparent that shared experiences, values or group norms will contribute to the feeling of cohesiveness in a group. Procedural techniques whereby the group is able to deal with disagreement and conflict without suffering disruptive loss of cohesiveness and morale are necessary attributes and accomplishments of a mature group.

The characteristics of the mature group are in many respects similar to those of the mature personality. It is able to meet internal conflict with reason, an understanding of its own norms and goals, together with an awareness of weaknesses and obstacles and lastly has the ability to deal with frustrations and disruptive forces without losing either morale, or cohesiveness or productive capacity.

These concepts and ways of improving group operation will be considered in our next sessions.

GROUP DYNAMICS - A Modern Concept

HELPING THE GROUP TO IMPROVE ITS OPERATION

4th Session

In our earlier sessions we have dealt with several concepts of group development, in which we expressed a preference, for the purpose of this series, for the idea of a phase growth or development related to individual behavior. We then described this member behavior, with particular emphasis on the individual needs which induce it. In our third session we considered the cohesiveness of the group, the valency or attractive power of the group for its members. Through Stogdill's theories of productivity, morale and integration, as contributing to group achievement, we further examined the progressive development of a group in reaching its goals or in achieving maturity.

In this session we will continue the examination of individual behavior, with a view to gaining insight into causes. With this insight we may hope to find ways of dealing with destructive behavior and with improving the group's ability to solve its problems, both of interaction and of content.

In classes in this field, students are given the opportunity to comment on "problem members", to air their gripes, as it were. The most common complaint seems to be against the member who "talks just to hear himself talk", or in another way, who "talks when he has nothing to say".

We have described some of the behavior typical of this problem as occurring during the early phases of group formation, when the members are striving for recognition, for satisfying their expectations. The patterns of behavior typical here can also be classified as being those of compensation, or over compensation, of aggressiveness, of withdrawing or of rationalizing.

The person who is insecure, or feels inferior or even who fears that his expectations may not be realized, may act in certain compensatory ways to insure that what he fears will not come to pass. Unfortunately, all too often his resulting behavior pulls him into the very situation he most feared, somewhat with the same irrationality of the person who commits suicide because he fears his illness may be fatal. The person, who needs to have recognition of his knowledge, which he considers superior, will talk in a condescending fashion and thus alienate those whom he would impress; one who fears he will be ignored or overlooked may chatter on and on to insure recognition and so on. Sometimes an overstressed air of disapproval or shock will be resorted to for the purpose of securing attention. Name dropping can be considered as falling within this category.

Not very different in its basic causes from the pattern just described is aggressive, bullying behavior, or blocking. Oddly enough the person who needs the security of admiration and respect from the group may attack the members whose favor he is seeking to

win. An early attempt to move in to dominate the group is a form of this same pattern, although it may also disclose a need to dominate. Careful observation should reveal whether the aggressive behavior is the result of rebelling against frustrations or is part of an attempt to assume dominance over the group.

Another way which individuals handle threats to their acceptance by the group is through "rationalization". This is a most common practice of advancing an explanation for a point of view or behavior that will reflect credit, but which may ignore and tend to obscure the real basis. This explains some of the elaborate devices by which people hide prejudice or bias by apparently objective explanations.

Another type of behavior through which people tend to deal with fears and frustrations is withdrawal, which covers various forms of apathy, absentmindedness, shyness and absence. These forms of "non-participation" create considerable anxiety among other members of the group. Guilt feelings cause them concern lest they may have been rude, or inconsiderate or somehow may have hurt the feelings of the withdrawn member. Most often it will simply be the restraints customarily placed on himself by the individual, but this does not avoid the attention which the group will pay to this situation.

Often the remedy in this situation simply makes the condition worse. The added attention makes the victim even more self-conscious, and even resentful at having his privacy probed into. In some cases he will react negatively and may arouse resentment by the group. In any case, the non-participative member is a serious problem to the group.

One more type which is met frequently is the authoritarian personality, who probably is not ready for true membership in a democratic group. This type of person is one who is uncomfortable in a non-structured situation. Organization, including leader relationships, must be clearly and specifically recognized. Procedures and rules must be spelled out in detail, and strictly enforced by the authority figures. The idea of the group itself working these problems through is unacceptable to this type of person. Here is the individual who will say that "Everything will be all right if 'they' will only tell us what to do", and also that "We would get along much better if everyone would stay on the subject and not talk just to hear themselves talk."

To better understand these so-called "problem members", and I do not like to think of them as such, we might review some of our concepts of the motivations behind the behavior which is causing trouble. This related to my reason for trying to avoid seeing them as problem members. Such people always have a reason for behaving as they do. People do want to be loved, respected and to be appreciated. They like to work, if they feel that the results will be effective and recognized. So we should look behind the behavior, first accepting the member, and attempt to see why he is acting the way he does -- to note needs which he may have which he is trying to satisfy.

You will recall that the basic needs we covered were survival and security. We also noted a need for approval, acceptance and status recognition as part of the "physic

income" pattern. We can describe this in other ways as the need to maintain self-respect, for instance, which ties in closely with fulfillment of expectations about himself. The need to belong is closely related. Some people feel that they don't really belong. This is the dreadful penalty inflicted on victims of prejudice or unfavorable stereotypes, for they are always sure that someone, in the group will not accept them with respect or affection.

Dr. William C. Schutz has developed what he calls a three dimensional theory of interpersonal behavior. He has developed a paper and pencil questionnaire to measure degrees of feeling about inclusion, control and affection. These purport to measure the extent to which the individual wants to be included or to include others; the degree to which he wants to control or be controlled and the amount of affection he needs to receive or bestow.

This recent development offers promise of much help in diagnosing difficulties in group relationships. It seems to have logical appeal and some research support. Be that as it may, it usually will be impractical to apply the questionnaire so we must be prepared to rely on less formal methods of diagnosis.

An essential requisite for any effective appraisal of group relationship is a permissive climate of acceptance and warmth. This is one typical aspect of the interdependent climate cited in our last session. It is a spirit within the group of acceptance of each person as having worth and significance as a separate individual. It is characterized by a feeling that what a person says or does belongs to the group and that the person will not be chastised for it, but that if it constitutes unacceptable behavior, an attempt will be made to understand the reasons for the behavior and help correct it, or find ways in which it may be acceptable.

Another approach to this philosophy of understanding, acceptance and appreciation is through the concept conveyed by the term "empathy".

This is closely akin to sympathy, but the difference between them is basic to our use of the term in this context. Sympathy says "I know how you feel and I feel the same way". Empathy says "I understand how you feel".

Sympathy causes tears at tear jerking movies, where the viewer identifies with the forsaken heroine and suffers with her. Empathy helps us appreciate how the other person is feeling about a situation. If we sympathize too deeply we cannot help much or even understand because we become caught up in our emotions and lose our ability to think and reason objectively. Ideally, if we empathize, on the other hand, we can help the other person with his problem without becoming a part of it. A physician, or counsellor, or advisor is at his best when he understands, but does not become too involved emotionally.

A climate within the group characterized by empathy will make possible the understanding of individual members. Such a climate, a permissive climate, says that it is not

unexpected that members will have problems, and that the group may be able to give assistance and support.

Thus the individual may feel free to bring his concerns out in the open, and resolution may take place. Often his problem will simply be that he feels that he is the only one who is confused, or that he has objectives which he is afraid will not be accepted. Sometimes he has an idea which he is afraid will be ridiculed or fears that he is ignorant of something he should know. A climate of permissiveness to have problems helps bring these and other similar problems out in the open, usually to be quickly solved.

Deeper problems may continue despite a warm and approving climate in the group. No member comes to the group alone, for along with the needs and motivations we have referred to before, the member has relationships with other groups and loyalties to ideals not necessarily connected with or even compatible with the group goals and values. This duality of identification causes the member frequently to have purposes, goals or values which he sees fit to keep safely hidden away. We call this, in our Group Dynamics jargon, the Hidden Agenda of a member, the undisclosed purposes brought to the group.

As an extension of this line of thought, we find that a group operates on two levels, the overt or the covert; above-the-table or under-the-table and openly verbalized or secret, to use different descriptive terms. We need to be aware of this when we find the members behaving quite at variance with what they are saying. For instance, sometimes a proposal will receive no verbal opposition, even receive some verbal support, yet when a secret vote is taken, be lost. Or more disastrously, the group may agree and vote on a decision or line of action and then not support it, without having openly voiced objections. We find, to our dismay, sometimes, that groups, as well as their members, behave in ways which seem incomprehensible. What can be done about it?

One solution usually reached for by the over-dependent member or by the authoritarian, who feels that what is needed is structure, is to set up a strong leader, with lots of rules and regulations and, it is felt, all will be solved. To a degree this may be true and some organizations operate this way. But we are more concerned, in this series, with democratically oriented groups, in which we hope for participation by all members. What means had such a group for self-diagnosis and improvement?

We have already discussed many activities which help the group and its members through effective climate, recognition of motivation and needs and acceptance of members as separate individuals. But we have additional devices to do this in a more specific way.

The group may utilize several techniques for self analysis and report. For example, some form of what we may call a "Post Meeting Reaction Sheet" may be devised. This can be filled out by members anonymously, at some stage in a meeting. These individual reports are collected, collated and their essence reported back to the group, preferably by a committee of the members.

A typical form might have a scale for general reaction:

How did you feel about this meeting?
No good — Fair — Good — Excellent
What did you dislike about it?
What did you like about it?
What suggestions do you have for improvement?

(Do not sign)

The reason for the emphasis on anonymity, and some will rebel against it, is to deal with the reality of some members being dissatisfied and being unwilling to acknowledge it openly as has been described before.

Another method is to assign one or more observers to withdraw temporarily from participation, and to prepare to report back to the group what they have observed. They may look for anything the group asks of them, but some usual items might well be: group climate, member-leader behavior, member roles, service roles, awareness of goals, procedures for dealing with problems, confusion of disagreement with hostility and so on. This will require acceptance by the group of the observers, and confidence of this by the latter.

If the group is a mature group it may often do this same job quite effectively by open discussion. When it realizes that it is bogging down, the leader or a member can well ask what is really happening.

Ideally, each member is continually making this kind of analysis and evaluation. This will, if he feels sufficiently secure in the group and is himself mature, permit him to note obstacles to the group processes and take corrective action.

Outside observers, either expert consultants or laymen can be brought in to do this job of observing and report. It takes a certain stability in the group to be successful in this for there are two ever present dangers. First, that the group will close in to defend itself and reject the observations and second that the group will become dependent on the observer.

Role Playing is another method which deserves mention at this time. While this is not the best of this valuable training method, role playing may be appropriate at the time as an aid to group operations.

In this session we have ranged over problems of group operation, including individual behavior, some of the underlying causes for this behavior and some techniques by which the group can improve its operation.

In our next and final period which we will title, Perspective, we will take up some applications, some aspects of the resolution of differences, something on creative idea finding and decision making and lastly some caution about where we stand in our knowledge of the field.

GROUP DYNAMICS - A Modern Concept

PERSPECTIVE

5th Session

We have, in our previous four sessions, covered some theoretical bases for our subject; some concepts of individual behavior in a group situation; developed some ideas of group processes; and demonstrated some methods of improvement of group operations. We will now, in this fifth and last session, take a broad general look at several areas touching on these matters. In this way, we may hope to gain additional understanding and also gain some ideas on related special topics, such as leadership styles, resolution of differences, and creativity in groups. We will also take a look ahead into applications as well as present training possibilities.

It must have become quite apparent that throughout our sessions we have been talking about some form of leadership. That is to say, we have been examining the processes of groups which are doing something, going toward some goal, which implies some sort of leader influence or even control.

All through our life, perhaps more particularly in our youth, we find ourselves being urged either to follow and be loyal to some leader, such as our parents, teachers, older children in youth groups or whatever, or on the other hand, being urged to demonstrate some assumption of responsibility and take on leadership duties ourselves. Indeed, I might say that one of the few characteristics which sets our college people apart from others, in our culture, is that we expect the college graduate to assume leadership roles, in some form or other.

In a larger sense we find continual emphasis being placed on leadership roles nationally and in all occupations. Our recent presidential election was fought out along these lines, even. And the struggles in Africa and elsewhere in the world seem beset by problems of leadership. I feel that it is not too much to say that this is one of the true tests of the value of a college education, "Does it contribute to the leadership effectiveness of the graduate?"

Yet our first question must seem to go right back to the beginning. What do we mean by leadership? One concept, and it is that which comes first to the mind of many of us, is the image of one who is in a position of authority. Father, the autocrat of the breakfast table, who sits at the head, the committee chairman, the military commander, the skipper of his ship, the judge, the priest, are images which may come to mind. But these, though are persons exercising some sort of control, power or influence over others. Would we be more accurate to consider their action with respect to others' "leadership"?

This seems plausible, but we find also that when we talk of leadership, we often run into traits which are used to describe leaders, presumably those who are effective.

Some, like the Boy Scout law, describe a leader as being honest, intelligent, fair, courageous and so on up to well over a hundred identifiable separate traits purporting to be characteristic of "good" leaders. My informal term for this is the laundry list or check list approach. It has the glaring weaknesses, in my view, of offering terms which are really impossible to define accurately and also of listing items none of which have been shown to be invariably a property of a leader. To carry this one step further, we haven't said a thing about the social value of the results of the leader's actions. For instance, Hitler was certainly a leader; many other examples will come to mind of others whose leadership goals are destructive by any standard.

This suggests that we look more closely into the behavior, rather than the traits of a leader. Dr. Franklyn S. Haiman seems to prefer this approach since he describes leadership as "any action which exerts an influence on a group, regardless of source." Note this last phrase, which recognizes that leadership actions may not always be the exclusive prerogative of the leader, but may be contributed by any member whose insight enables him to see a group need and supply it with appropriate behavior, such as the conciliator, who relieves a hostile situation by moderating or explaining exercises leadership; the comic, who relieves a too serious a meeting with a diverting laugh; or the energizer, who prods an apathetic group may be performing necessary leadership services.

A caution here is necessary, to distinguish between the behavior which is motivated by self-centered needs and that which is prompted by recognized group needs. The playboy may joke and clown around to the destruction of group action, whereas a thoughtful member may, for the group's own benefit, relieve tension with a quip. A dissenter may become a blocker to serve his own needs, or, on a more perceptive level, may force a group to look more thoroughly into their performance.

In any of these cases, I would say that leadership behavior is involved if it causes a reaction by the group, for good or ill. Also, it is my thesis that it can be leadership action whether done by the nominal leader or a member. So this suggests a line of thought which will open up the behavior within the group as a field for examination of leadership. We shall call this a "situational" approach since the questions we have to ask seem to be related to the situation within the group.

For example, we are interested in knowing what services are needed by the group at any time. That is, does the group need goal orientation, explanation, conciliation, prodding or summarizing? Does it need to have a means of self-diagnosis? Does it need to know when it has reached a decision or consensus?

Also we are interested in what kinds of behavior influences a group, and in what ways. We are interested in how power is used, in how leadership is exercised. We find two fundamental aspects for the examination of the use of power in the group.

First, we are concerned with the various situational aspects involved, These are the activities being carried on by the group. This depends also on what kind of a group it is and what the group is doing, a functional concept as it were. An informal bull

session will need and find one kind of behavior, whereas a surgical team will have an entirely different type. A learning discussion group, a planning committee, a policy making board, an information giving meeting will have different functional needs. Hence, different leadership behavior will result.

Another approach to this examination of leadership behavior is through examination of the sources of the influence or control being exerted. Often this source is the title or prestige of the leader or a member. Merely being named "Moderator" or "Chairman" in our culture, confers a grant of power of a sort. On a more formal power level the classroom teacher, with grade sanctions at his disposal; the manager, who can hire and fire, or promote, the clergyman or the military leader, the man of wealth, a person of accumulated age, have certain elements of status power by which to exercise leadership power.

Before going into styles of leadership, it might be well to re-examine some of the group norms and standards which will determine what styles of leadership will prevail.

As we have said before, a group has a birth, a growth, possibly a period of maturity and then a dissolution or decline, just as does a culture or larger social entity. During its life a group will develop norms and standards of behavior, and procedures or processes for dealing with problems. These standards will determine, in large measure, what kind of leadership behavior will be acceptable. The members will form attitudes, which will be reflected in the kind of leadership which will be needed and which will be accepted.

People usually do expect to have a leader. The first effort of a leaderless group, when thrown on its own, is to raise the question: "who will be chairman?" or "moderator" or "leader" often without regard for whether there is need for one or what will be his duties. A story is told of the Marine Sergeant, who, being horror struck at learning that one of the privates was planning to not re-enlist, but return to civilian life, stated, "No one knows who's in charge out there."

In fact, it is my opinion that people are frequently none too eager to assume responsibility for their own direction and will all too often gladly accept a role of subservience to a strong authority figure. Most of the men who broke under the emotional strain of military service, where physical fear was not involved, did so not from rebellion against regimentation so much as reluctance to accept responsibility.

This is an explanation for the acceptance by people of the autocratic style of leadership. This is the structure of inter-relationship which is based on the thesis that all men are selfish and dishonest, and that strong controls, through rules and regulations, backed up by penalties, are necessary for any accomplishment. This view holds that only a few are capable of exercising control and, that the organizational structure should reflect this.

At possibly the other extreme the democratic ideal of leadership holds that the less control the better; that man is basically good and can be trusted to do the right thing if

trusted and encouraged. Leadership in this style is quite a different role from the authoritarian played in the autocratic concept.

A third style, often mentioned in connection with the two styles of leadership just discussed, is that of "Laisse-faire". It seems incorrect to place this between the other two on some sort of a continuum. Rather this is a situation in which the leadership is so liberal, weak or permissive as to be practically non-existent. Usually this is confusing and unwelcome to the members and frequently some form of leadership is derived from the needs of the group.

This should not be confused either, with the anarchic style, characterized by an absence of leadership and standards to the point of chaos.

A confusing element of the democratic versus autocratic style of leadership is that currently the former is considered more socially acceptable. Hence there is a tendency to disguise authoritarian or autocrat purposes under a cloak of the "democratic" trimmings. For example, the company president calls a meeting to discuss a matter when his mind is already made up. This is easily recognized when the formal or nominal leader has these prior purposes. Churchill is said to have replied to a reporter's charge that he was an autocrat: "I'm not an autocrat. I simply believe that, after due discussion, my cabinet ought to agree with me."

But what of the leadership functions which may, as we have described, be exercised by members instead of the leader?

We see this in the person who comes to the meeting with a "hidden agenda" or personal plan and then pushes this on the others. Claims for private knowledge, or short lines to higher authority or other subtly aggressive member devices may be forms of autocratic behavior, which obviously is not limited to the formal leaders.

Frequently commitments to other groups will impose this sort of behavior on a member. Particularly if it is a delegate assembly, a member may bring to a meeting, in his own mind, an "invisible committee" of people he has close ties with in other group situations. These people may pressure him into behavior of an autocratic nature by their absentee influence.

These ideas on leadership styles lead us rather naturally into the always vexatious problem of resolving differences within the group. The autocratic leader may not permit any expression of them; the laissez-faire leader will make no attempt to resolve them, while the democratic group will at least make the effort.

The first hurdle to overcome is the confusion between disagreement and hostility. This is prevalent in an immature group and diverts the attention of the group from the task to the interpersonal conflict. A mature group will have evolved procedures and attitudes which will enable the group to handle disagreements without exchange of ill feeling.

But even with this obstacle overcome, and it often does not stay that way, the group may find trouble in establishing processes for reaching action agreements or settling disputes. Most groups put great faith in voting to settle such issues. The problem here is to solve the disagreement in such a way as to enlist the support of the losers. If the vote is close, it is usually an indication that the problem has been inadequately solved. Probably the vote was called for too soon.

A more mature, though admittedly difficult method of settlement of disagreement is through consensus. This means that the leader, or the group itself, has a sense or awareness that the group as a whole has reached agreement on an issue. It implies that all dissenters have been heard, if they wish to be, and that if they still disagree, they at least recognize the necessity for going ahead with the solution. The minority does not feel imposed upon. They still feel part of the group.

Although disagreement may be the bugaboo of an immature group and some will praise a group for its harmonious relationships, it should be pointed out that research has demonstrated that better quality decisions will be made by groups which have many disagreements, or to put it in another way, many different attitudes and points of view. The many aspects of a complex problem will be explored more completely if several different ideas are available and can be presented without threat to the group or its members. The crux of the matter here is the ability of a group to create procedures and standards which permit expression of disagreement, particularly minority disagreement, without threat.

The same principle seems to underlie the techniques which are being developed to aid creativity in groups. The common element in recognized systems such as brainstorming and analytical or input-output methods is an acceptance by the members of non-significant comments by others. During the search for new ideas, the critical or judicial factor is suspended, and, as the saying goes, the legislative takes over. New ideas, irrational or unrelated as they may be, are wanted and will be received with neither credit nor censure for the contributor. All comments are the property of the group, which should neither praise nor condemn.

Obviously, such a technique, designed, as it is, for ideas and not action, cannot make decisions, initiate action nor plan. All it can do, and all it should be expected to do, is to get new ideas and lots of them. Some other committee, or some other session should be used to evaluate and judge the contributions.

As a closing item in this session as well as the series let us take a look at where we stand in this field of group dynamics. There is a large and growing literature, based on research which is steadily being carried forward. Many institutions of higher education have courses based on some part or application of the field. It is given, in some form, in many management or leadership training courses across the country.

Of central importance in this development is the Research Center for Group Dynamics at the University of Michigan, with which have been associated social psychologists

such as Ronald Lippitt, Alvin Zander, Dorwin Cartwright, John R. P. French and others.

The National Training Laboratories in Group Development, conducted under the supervision of Dr. Leland Bradford of the Adult Education Division of the National Education Association, conducts training intensively during the summer at the Gould Academy in Bethel, Maine, with other specialized institutes during the rest of the year. Some of the prominent educators involved in these enterprises, in addition to Dr. Bradford, are Drs. Gordon Lippitt, Jack Gibb, Kenneth Benne, Norman R.F. Maier, Herbert Thelen, Bob Blake, Malcolm Knowles and many others.

The emphasis at Bethel is the training of delegates who are drawn from every type of leadership activity. Similar training institutes are conducted on a regional basis in California and elsewhere. Elements of this area of training have been introduced into many management training conferences in all parts of the country, and have been exported to Europe and South America.

This brings us to our concluding summary for the sessions. We have covered in our five periods the following:

1st Period — What is group dynamics and why is it important to us? Four concepts of Group behavior.

2nd Period — The Individual in the Group - Basic needs - Membership - Leadership Roles.

3rd Period — The Group, Its Structure and Internal Forces - Personality or Climate of a Group, Cohesiveness, and Maturity.

4th Period — Group Improvement - Individual behavior - Improving groups' ability to handle its problems - Group observer - Post Meeting Reactions, Role Playing.

5th Period — A Perspective: Leadership concepts - Situational factors - Styles of Leadership - Resolution of Differences - Creativity in Groups - A Survey of Activities in the field.

This brings us to the close of this session and of the series.

GROUP DYNAMICS

PRE-EXPERIMENT SUBJECT MATTER INVENTORY

Circle the letter opposite the statement which best answers the question or best completes the thought expressed in the question.

1. Have you ever had a course in Group Dynamics or Group Discussion at American University or any place else?
   a. yes
   b. no

2. Have you ever had occasion to read books or articles on Group Dynamics research or theory?
   a. yes
   b. no

3. If the answer to question (2.) is yes, which of the following statements would best characterize the amount of reading you have done?
   a. very little
   b. some
   c. quite a lot
   d. a great deal

4. Which of the following is not a necessary criterion for a group?
   a. face-to-face situation of two or more people
   b. each psychologically aware of each other
   c. an organizational and leadership structure
   d. mutually recognized and accepted goals

5. One of the following developed a theory that sees the organized group as an input-output system in unstable balance:
   a. Kenneth Benne
   b. Herbert A. Thelen
   c. Paul Sheats
   d. Ralph M. Stogdill

6. Which of the following is not included in Dr. Herbert A. Thelen's theory of group process?
   a. elements of control and coordination must exist
   b. member roles must be different enough to provide services needed by the group
   c. rewards and incentives must be available to the members to keep them interested and active
   d. a common group personality must be recognized

7. The first basic sensation of a member in a new group is:
   a. anxiety
   b. gregariousness
   c. curiosity
   d. eagerness

8. A person behaves when he is alone the way he:
   a. behaves in a group he likes
   b. wants to
   c. in a way we don't know much about
   d. did in the last previous group situation

9. A group:
   a. makes better decisions than one person
   b. has no need for the ascendant individual
   c. subsists on communication
   d. has no personality
   e. none of the above

10. A three dimensional theory of interpersonal behavior has been developed by:
   a. Warren Bennis
   b. Chester A. Barnard
   c. William C. Shutz
   d. Norman R. F. Maier

11. Empathy helps a person to be effective in groups because:
   a. it is the same as sympathy
   b. it is a projective device
   c. it is a form of counseling
   d. it is a contribution to understanding

12. A group process observer must be:
   a. elected by the group
   b. the leader
   c. an outsider
   d. an expert
   e. all of the above
   f. none of the above

13. In our democratic culture various prestige titles such as chairman, judge, doctor, professor, or director have:
   a. fundamental importance
   b. over-riding power
   c. little influence
   d. temporary effect

14. A mature group differs from an immature group in that it:
    a. is larger with recognized assigned roles
    b. is older with a developed jargon
    c. is able to distinguish between disagreement and hostility
    d. has clear lines of authority

MATCH THE FOLLOWING ROLES TO THE PHASE OF GROUP DEVELOPMENT IN WHICH THEY ARE MOST LIKELY TO OCCUR:

15. harmonizer _____
16. blocker _____
17. opinion seeker _____
18. aggressor _____
19. gate keeper _____
20. recognition seeker _____
21. energizer _____
22. information seeker _____
23. playboy _____
24. standard setter _____
25. evaluator-critic _____

a. self-centered
b. group oriented
c. task centered

It is in September, in the first week following registration. A college freshman has asked several of his classmates to meet with him to discuss and plan the formation of a class organization. A group of ten freshmen, of which four are girls, meets, with the sophomore class president in attendance. Few are acquainted with the others and none with more than two.

26. The motivations which impel these students to attend are:
    a. needs for security
    b. desire for approval
    c. fellowship
    d. survival fears
    e. all of these

27. What criteria for a group are satisfied in this meeting?
    a. face-to-face situation
    b. psychological awareness by each of each of the others
    c. common goals, mutually recognized and accepted
    d. none of the above
    e. all of the above

28. What expectations will be found among the members?
    a. that there will be "someone in charge"
    b. that nothing will be accomplished
    c. that a structure will be presented based on former classes
    d. that it will be well to wait and see what happens
    e. all of the above

29. What kind of behavior may be expected?
    a. job centered
    b. valency controlled
    c. self-centered
    d. group maintenance

Among the group of ten freshmen and the sophomore class president are (1) a girl who had attended most of the last year but had dropped out because of sickness, (2) a veteran who was twenty-two years old, (3) a man of nineteen who had been freshman class president at another college but had dropped because of poor grades and had worked for a year, (4) a man of eighteen who had been president of his high school student body, (5) an outstanding scholar of seventeen who is the younger brother of a prominent campus personality, and (6) the oldest person, a girl of 23. The group starts off amicably, with introductions and expressions of mutual esteem, but soon becomes a series of personal reminiscences. Several do not contribute a word, after the social preliminaries.

30. Who should do something about this?
    a. the veteran
    b. the sophomore class president
    c. the faculty advisor
    d. the transferred class president
    e. the oldest person
    f. any of these
    g. any member of the group

31. What action would be appropriate?
    a. distribute PMRs
    b. make a statement about the situation
    c. call in outside expert help
    d. none of the above

32. What is the most likely reason behind this withdrawal behavior?
    a. timidity
    b. fear of ridicule
    c. over-dependent personality
    d. hidden agenda
    e. hurt feelings

Following the first meeting, at which the only thing agreed upon was a time and place for the second meeting, several of the more quiet members joined the sophomore class president for coffee, and complained about the meeting, saying that they felt they were being dominated and that he should do something about it. They were somewhat surprised when his questioning brought out that they were in disagreement as to which of two of the men and one of the girls was doing the dominating.

33. What conclusion should the sophomore make at this point?
    a. this class will have a hard time
    b. he should take over to correct this situation
    c. the group is immature
    d. it is the fault of the weak members
    e. it is the fault of the dominant members

34. What should the sophomore do about this?
    a. encourage the timid members to speak out
    b. caution the dominators to hold back
    c. seek help from the faculty advisor
    d. make no change

When the second meeting gets under way, the sophomore class president suggests that he withdraw as temporary chairman and that the group select its own chairman. This leads to a spirited argument over duties of the new chairman and who he should be, with only about half the members participating.

35. At this point the temporary chairman should:
    a. introduce role playing
    b. ask for someone to comment on what is happening
    c. leave the room
    d. require each person to speak in turn

36. Whose theory seems to account for this type of behavior most clearly?
    a. Herbert A. Thelen
    b. Kenneth Benne
    c. Ralph M. Stogdill
    d. William C. Schutz

37. What characteristic of a mature group would you say is missing?
    a. a communication system in effect
    b. motivation for accomplishment
    c. an understanding of its goals
    d. member interest in each other

Before the end of this meeting, the group does agree on a temporary chairman and on an agenda for the next meeting. The sophomore announces that he cannot attend the next meeting. At the next meeting there is a different atmosphere. There is little disagreement and most comments are preceded by such remarks as "I agree with Joe, but", and "That sounds good", "I'd like to hear from Jane", and so on.

38. This is characteristic of:
    a. an overly cooperative group
    b. a group in Benne's second phase
    c. group maintenance behavior
    d. all of these (a, b, and c)
    e. none of these

39. At this stage in the group development what is determining the nature of its leadership?
    a. imposed views of the upper classes
    b. voting
    c. anxieties of the members
    d. norms and standards being developed

40. What should this group look for in choosing its leader?
    a. experience
    b. status and prestige
    c. empathy
    d. political relationships

During the three meetings many kinds of behavior have been observed. Classify them according to leadership styles as follows:
    a. autocratic
    b. laissez-faire
    c. democratic
    d. non-leadership behavior

41. The dominators who tried to take over at the first meeting

42. The non-participants

43. Those who talked too much

44. The sophomore class president

45. Those who complained to him after the first meeting

46. A member who proposed that they use PMRs to obtain the anonymous views of each member

47. A member who announced at the third meeting that "we seem to have agreed that Sam should be our temporary chairman," and the group and Sam agreed

48. Sam, who contacted each member before the fourth meeting to get his views on a proposed agenda

49. Tom, who backed him on several issues, in the fourth meeting

50. Sally, who contacted each other girl to urge her to insist that either the President or Vice President be a girl.

51. Which of the following is <u>not</u> an effective way to resolve differences:
    a. voting
    b. compromise
    c. integration
    d. consensus

52. In our consideration of leadership in connection with groups we find that we are most concerned with:
    a. character traits
    b. consensus
    c. prestige
    d. situational behavior

53. Which of the following is <u>not</u> an advantage of role playing?
    a. it causes a person to be aware of himself
    b. viewers see errors demonstrated by others
    c. role substitution gives new insights
    d. an individual loses his self-consciousness

54. Role playing is most effective:
    a. when a group is immature and hesitant
    b. in showing rather than telling how to behave
    c. if carefully planned and rehearsed
    d. when introduced during a harmonious session

55. Which of the following is <u>not</u> a method by which a group may improve its operation?
    a. invisible committee
    b. process observer
    c. PMRs
    d. Role playing
    e. discussion

GROUP DYNAMICS

POST-EXPERIMENT SUBJECT MATTER INVENTORY

Circle the letter opposite the statement which best answers the question or best completes the thought expressed in the question.

1. Which one of the following is not a necessary element of morale as defined by Stogdill?
   a. member satisfaction
   b. happiness
   c. group loyalty
   d. enthusiastic effort

2. Which of the following is not included in Dr. Herbert A. Thelen's theory of the group process?
   a. the group must be able to survive disruptive forces
   b. a permissive climate must be achieved
   c. common norms and standards of behavior must be generally accepted
   d. a common language must exist in the group

3. According to one theory of group dynamics there are three phases of development of a group. Which of the following is not one of them?
   a. orientation phase
   b. self-centered
   c. task emphasis
   d. group maintenance

4. The number of formal groups compared with the total number of people in the United States is:
   a. about the same
   b. less than half
   c. many more
   d. almost as many

5. An ideal democratic group will:
   a. have leadership by coalition
   b. be leaderless
   c. have shared leadership
   d. have clear structural lines of authority
   e. none of the above
   f. any of the above

6. A group will establish norms
   a. to guide it through routine processes
   b. which will be used to punish a leader
   c. to aid in the communication process
   d. which tend to restrict a group's growth
   e. all of the above.

7. The three dimensional theory of inter-personal behavior does not include which one of the following:
   a. inclusion
   b. anxiety
   c. affection
   d. control

8. A PMR is normally:
   a. a technique for group self-analysis
   b. anonymous
   c. a Post Meeting Reaction
   d. evaluated by a committee
   e. all of the above.

9. To be effective a leader must be:
   a. wise
   b. fair
   c. healthy
   d. dynamic
   e. all of the above
   f. none of the above

10. Compared with autocratic and democratic leadership we find laissez-faire leadership to be:
   a. about half-way between
   b. beyond democratic away from autocratic
   c. nearer democratic than autocratic
   d. nearer autocratic than democratic
   e. none of the above.

The following research scholars and teachers are associated primarily with one of the following:

11. Jack Gibb_____
12. Darwin Cartwright_____
13. Ronald Lippitt_____
14. Gordon Lippitt_____
15. Kenneth Benne_____
16. John R. P. French_____
17. Herbert Thelen_____
18. Malcolm Knowles_____

a. Research Center for Group Dynamics at the University of Michigan

b. The National Training Laboratories, Bethel, Maine

It is in September, in the first week following registration. A college freshman has asked several of his classmates to meet with him to discuss and plan the formation of a class organization. A group of ten freshmen, of which four are girls, meets, with the sophomore class president in attendance. Few are acquainted with the others and none with more than two.

19. The drives and needs which cause these students to attend are:
    a. security anxieties
    b. status desires
    c. hope for recognition
    d. desire for approval
    e. all of these

20. What criteria for a group are missing?
    a. psychological impact on each other
    b. common goals mutually recognized and accepted
    c. system of communication
    d. none of the above
    e. a and b
    f. b and c
    g. a and c

21. What expectations do the members bring with them?
    a. that everything is already arranged
    b. that someone else will assume responsibility
    c. that now is the time to take over
    d. that it is too early to "stick my neck out"
    e. all of the above

22. What kind of behavior may be expected?
    a. task centered
    b. group oriented
    c. cohesive efforts
    d. self conscious

Among the group of ten freshmen and the sophomore class president are (1) a girl who had attended most of the last year but had dropped out because of sickness, (2) a veteran who was twenty-two years old, (3) a man of nineteen who had been freshman class president at another college but had dropped because of poor grades and had worked for a year, (4) a man of eighteen who had been president of his high school student body, (5) an outstanding scholar of seventeen who is the younger brother of a prominent campus personality, and (6) the oldest person, a girl of 23. The group starts off amicably, with introductions and expressions of mutual esteem, but soon becomes a series of personal reminiscences. Several do not contribute a word, after the social preliminaries.

23. Whose responsibility is this?
    a. the faculty advisor
    b. the sophomore class president
    c. the oldest student
    d. the veteran
    e. the transferred class president
    f. none of the above

24. What action would be appropriate?
    a. role play the situation
    b. ask what is going on
    c. invite the faculty advisor in for comment
    d. any of these

One of the freshmen in the group had nothing to say after the initial introductions.

25. What is the most likely explanation for this?
    a. shyness
    b. disapproval
    c. anxiety fears
    d. group pressure
    e. inadequate personality

Following the first meeting, at which the only thing agreed upon was the time and place for the second meeting, several of the more quiet members joined the sophomore class president for coffee, and complained about the meeting, saying that they felt they were being dominated and that he should do something about it. They were somewhat surprised when his questioning brought out that they were in disagreement as to which of two of the men and one of the girls was doing the dominating.

26. What explanation would account for this?
    a. the class is not ready to organize
    b. someone should tell them what to do
    c. the dominant members are too self-seeking
    d. this is a normal first meeting
    e. lack of communication exists

27. What action should the sophomore take?
    a. dominate the next meeting strongly
    b. ask for expert help
    c. conduct the meeting as before
    d. encourage each person to be cooperative

When the second meeting gets under way, the sophomore class president suggests that he withdraw as temporary chairman and that the group select its own chairman. This leads to a spirited argument over duties of the new chairman and who he should be, with only about half the members participating.

28. At this time the temporary chairman should:
    a. appoint a new chairman
    b. explain and ask for PMRs
    c. limit the time of the more vocal members
    d. call on the quiet members by name

29. Of the several theories advanced, which seems to fit best with the situation at this point?
    a. Ralph M. Stogdill
    b. William C. Schutz
    c. Herbert A. Thelen
    d. Kenneth Benne

30. What characteristic of a mature group is <u>not</u> present in this group?
    a. face-to-face communication
    b. lack of disagreement
    c. experience
    d. procedures for dealing with frustrations

Before the end of this meeting, the group does agree on a temporary chairman and on an agenda for the next meeting. The sophomore announces that he cannot attend the next meeting. At the next meeting there is a different atmosphere. There is little disagreement and most comments are preceded by such remarks as "I agree with Joe, but", and "That sounds good", "I'd like to hear from Jane", and so on.

31. This is typical of:
    a. group maintenance behavior
    b. Benne's second phase
    c. an overly cooperative group
    d. none of these
    e. all of these (a, b, and c)

32. The structure of leadership in the group is being determined by:
    a. norms and standards being developed
    b. tradition
    c. consensus
    d. past experience of candidates

33. At this stage the group should consider which aspect foremost in the selection of its leader:
    a. age
    b. prestige and tradition
    c. empathy
    d. political relationships

During the three meetings many kinds of behavior have been observed. Classify them according to leadership styles as follows:
    a. cutocratic
    b. laissez-faire
    c. democratic
    d. non-leadership behavior

34.____ Those who attempted to assume leadership at the early meetings

35.____ Those who did not talk

36.____ The talkers

37.____ The sophomore

38.____ Those who complained about the dominators after the first meeting

39.____ A member who asked that PMRs be used

40.____ A member who announced at the third meeting that "we seem to have agreed that Sam should be our temporary chairman", and the group and Sam agreed

41.____ Sam, who contacted each member before the fourth meeting to get his views on a proposed agenda

42.____ Tom, who became a blocker in the fourth meeting

43.____ Sally, who contacted each other girl to urge her to insist that either the President or Vice President be a girl

44. Which of the following is NOT an effective way to resolve differences?
    a. consensus
    b. integration
    c. voting
    d. compromise

45. When considering aspects of group leadership we find ourselves mostly interested in:
    a. intelligence levels
    b. character traits
    c. situational behavior
    d. consensus

46. One of the following is not an expected result of role playing:
    a. loss of self-consciousness
    b. demonstration of errors
    c. new insights
    d. self awareness

47. Role playing is at its best:
    a. when carefully rehearsed and written
    b. to get people to learn by doing
    c. when a group is in a good mood
    d. in cases of new and immature groups

48. Which of the following is not a method for group self-improvement?
    a. discussion
    b. process observer
    c. expert consultant
    d. role playing
    e. PMRs

Match the items listed below with the phrase which seems most applicable to it by writing the letter of appropriate phrase to the left of the number of the term in the left column:

____49. morale	a. general appearance
____50. group	b. helps people to participate
____51. hidden agenda	c. I know how you feel
____52. sympathy	d. role playing
____53. observer	e. member satisfaction
____54. socio-drama	f. my feelings are the same as yours
____55. consensus	g. power lines
____56. empathy	h. awareness of each other
____57. gate-keeper	i. undisclosed goals
____58. structure	j. one who tells how group is doing.

POST EXPERIMENT QUESTIONNAIRE

Group C

Circle the letter opposite the statement which best answers the questions for you.

1. During the lectures I was interested:
   a. most of the time
   b. about half of the time
   c. occasionally
   d. almost never

2. These lectures broadly covered the material studied in a regular course offering of the University. After hearing these lectures, I:
   a. would be quite interested in taking the course
   b. would be somewhat interested in taking the course
   c. have no feeling about taking the course
   d. would be only mildly interested in taking the course
   e. would not take the course

3. If the teacher had been in the room delivering his lectures instead of on TV, I would have been:
   a. somewhat more interested
   b. somewhat less interested
   c. much more interested
   d. interested to about the same degree
   e. much less interested

4. I think the teacher expressed his material:
   a. clearly
   b. very clearly
   c. not clearly at all
   d. not particularly clearly

5. I think the teacher gave:
   a. too many illustrations and explanations
   b. the right amount of illustrations and explanations
   c. more illustrations and explanations than were necessary
   d. not enough illustrations and explanations
   e. somewhat fewer illustrations and explanations than were necessary

6. The teacher spoke:
   a. much too fast
   b. too fast
   c. at about the right rate
   d. a little too slowly
   e. too slowly

7. If I were asked to rate the effectiveness of the teacher I say he was:
   a. very effective
   b. very ineffective
   c. somewhat ineffective
   d. fairly effective

8. I would describe the teacher's appearance as:
   a. fairly pleasant
   b. very unpleasant
   c. very pleasant
   d. somewhat unpleasant

9. I would describe the teacher as a person whom I would:
   a. dislike somewhat
   b. like very much
   c. feel "neutral" toward
   d. dislike very much
   e. like

10. The ability to ask questions and comment via the microphone "talk-back" system resulted in the feeling that I:

    A-1. learned much less
    2. learned much more
    3. learned about the same amount
    4. learned somewhat more
    5. learned somewhat less

    B-1. was much more interested
    2. was somewhat more interested
    3. was about equally interested
    4. was somewhat less interested
    5. was much less interested

    C-1. enjoyed the lectures much less
    2. enjoyed the lectures somewhat more
    3. enjoyed the lectures somewhat less
    4. enjoyed the lectures much more
    5. enjoyed the lectures to about the same degree

11. I used the "talk-back" system:
    a. frequently
    b. quite a bit
    c. once in a while
    d. not at all

12. I think the "talk-back" system:
    a. definitely should be retained
    b. is not very important
    c. makes no difference one way or another
    d. is useful but not essential
    e. is nice but not necessary

13. In a few sentences below describe your feelings about learning in a situation such as the one you've experienced here during the past week.

14. Any other comments you wish to make regarding your reactions toward this experiment.

TECHNICAL REPORT ON THE ELECTRICAL STUDENT FEEDBACK SYSTEM

The original design of the system was conceived with two limitations being imposed: complexity and funds. A simple series circuit was employed to avoid circuit complexity, and surplus components were used to conserve money.

The limitation imposed by the D.C. series system involves the inherent, non-linear, current change in such a circuit. This posed problems in regard to linear deflection of the recording ammeters. The first five student responses were so small as to present a compressed graph on the roll chart. This made accurate reading of the chart difficult. A non-linear scale was prepared to read the graphs.

Mechanical constants in the recording ammeters were so unstable as to cause a calibration problem. An operator was kept on duty to cope with adjustments during the experiment. Even so, small variations in meter zeroing and pen inertia, coupled with the small deflections provided by sporadic and limited student responses, made a few indications difficult to analyze.

It is felt that the second limitation would be eliminated if a linear current change could be obtained in the response circuit. Early responses would then have enough magnitude to minimize the effects of changing meter constants. Such a system could be built, using a parallel arrangement, with simple modification of the existing equipment. Drawings of the suggested circuit are attached to this report (Appendix IV-B and C).

The proposed modification would also allow a more precise adjustment of the tally relays. It was found that current changes were so small in the series system during the first few responses that extremely critical relay adjustments were necessary to obtain the desired indication.

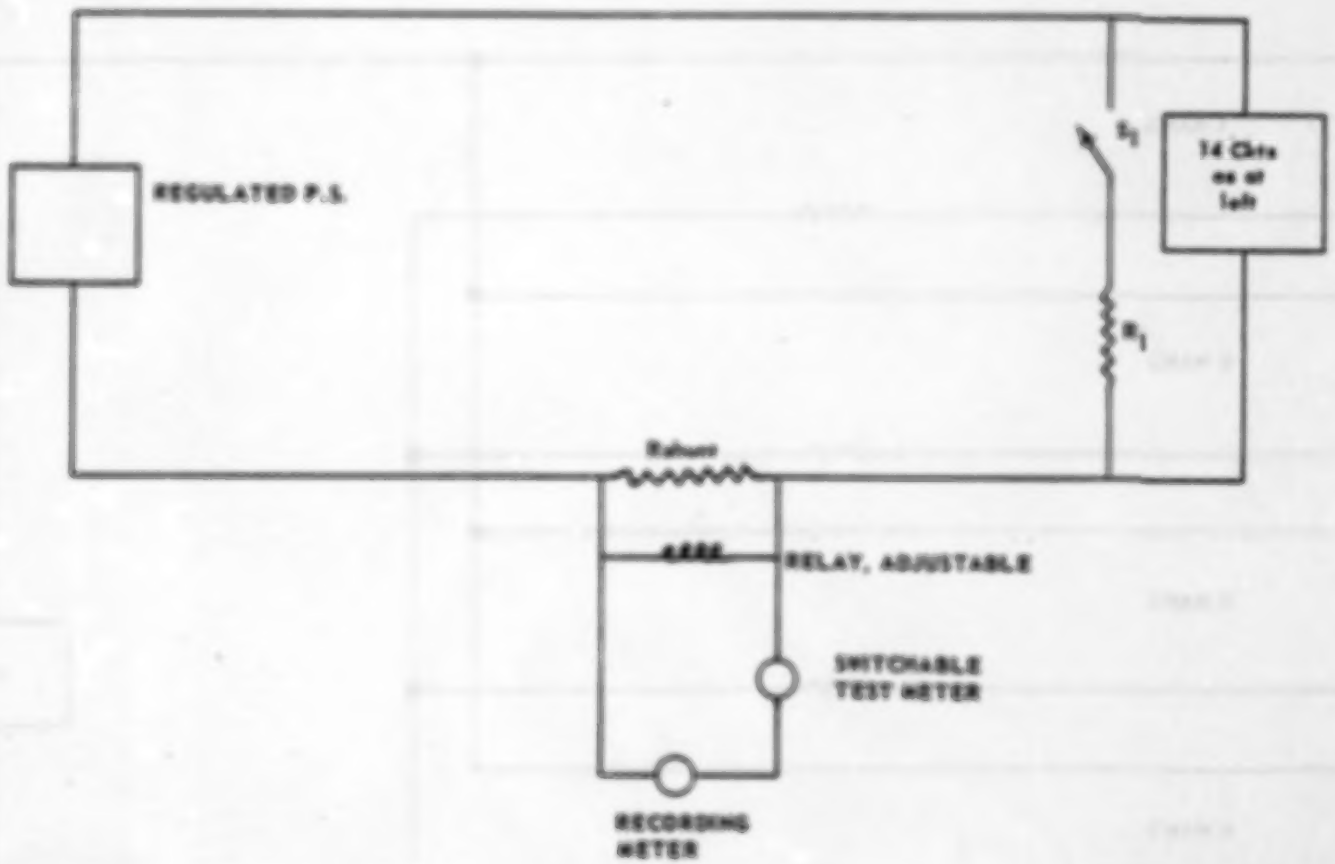
Two small delays were caused by shorted response boxes due to strain on connecting wires. These were discovered before the lectures on the fourth and fifth days of the "electrical" week. Repairs were accomplished in one instance, and compensation in meter calibration made in the other.

A broken tally relay on the third day of the "electrical" week caused the tally light on channel 1 to be inoperative except by manual switching. A technician, who monitored the responses continuously, caused the tally to light when the appropriate response level was reached on that channel.

Except for the foregoing limitations and difficulties the electrical feedback system worked well. It is felt, however, that increased effectiveness would be achieved if the actual number of responses could be relayed to the instructor. Perhaps a meter, or series of lights, could be used to show the number of responses. Such an addition would also allow multiple choice questions to be answered via the electrical medium.

ROGER PENN
Research Associate

SUGGESTED DESIGN MODIFICATIONS IN ELECTRICAL SIGNAL SYSTEM-I

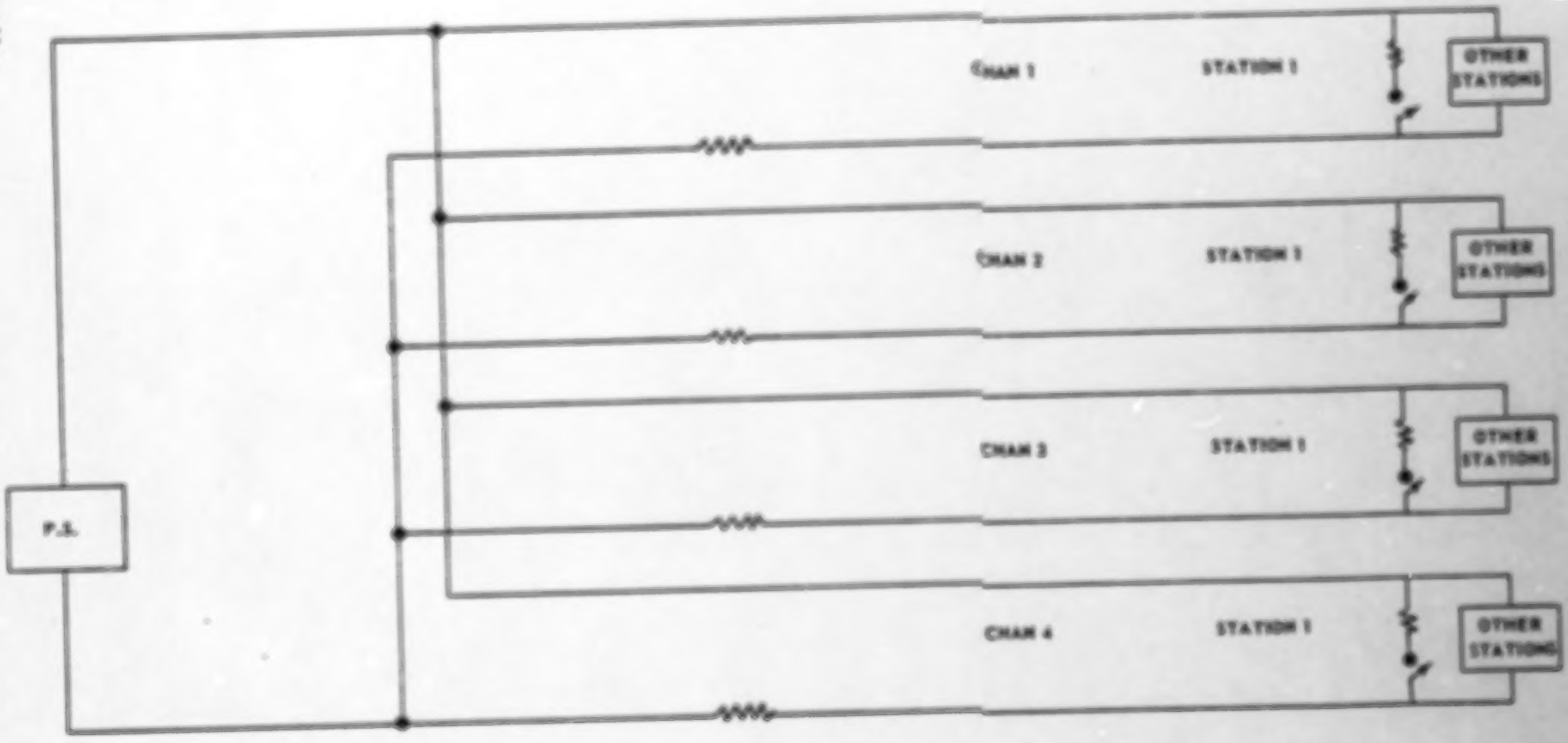


AUDIENCE FEEDBACK SYSTEM
WILL GIVE "LINEAR" RESPONSE IF
R_S IS SMALL COMPARED WITH REST OF
Ckt. FS 102

1. CHOOSE VALUES TO GIVE 1 VOLT ACROSS R_S WHEN ALL SWITCHES ARE CLOSED
2. RELAY ACTUATES SIGNAL LIGHTS
3. MAX. CURRENT LIMITED BY P.S. AND POWER RATING OF R_1 etc.

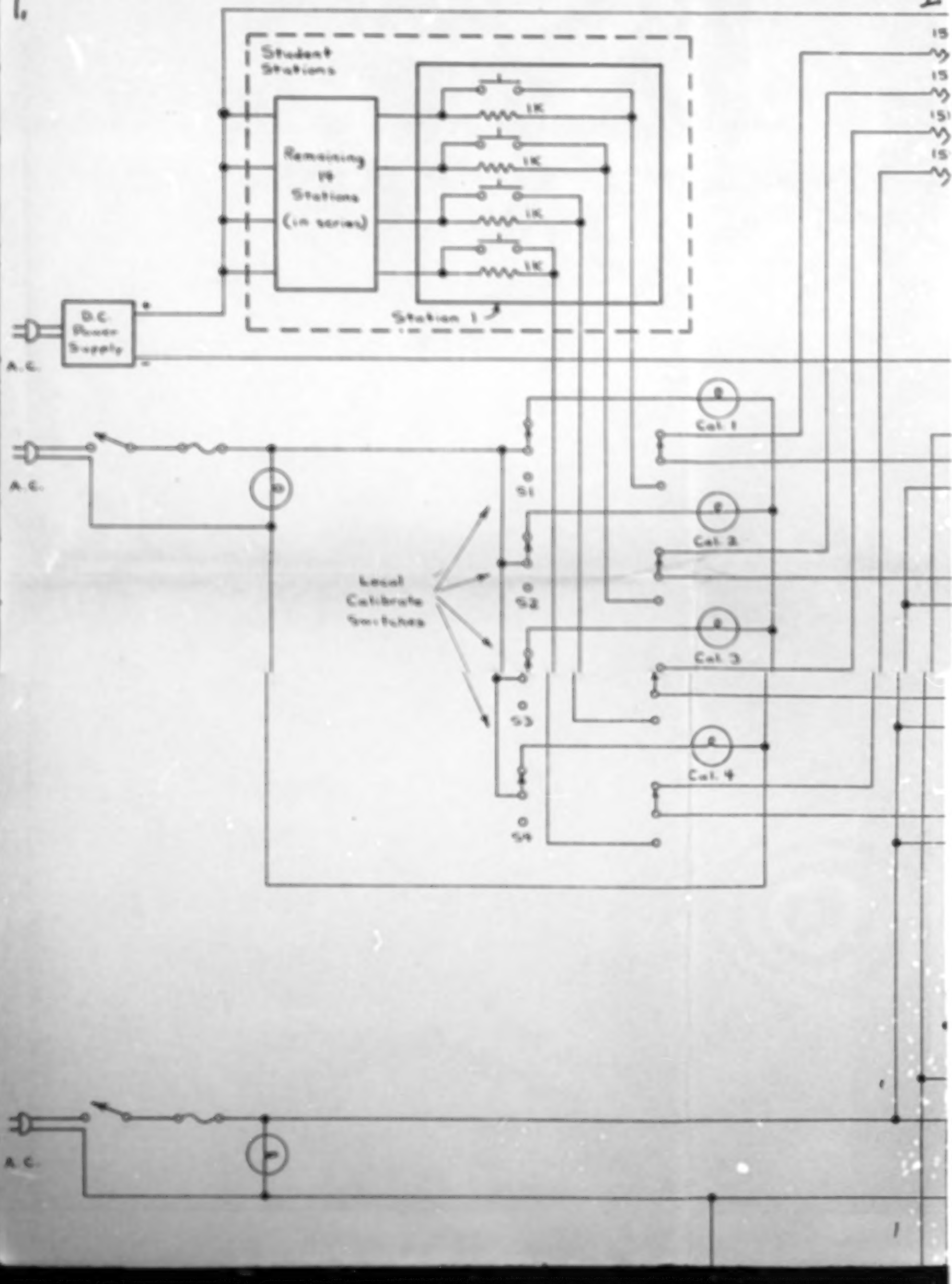
Appendix IV-C

SUGGESTED DESIGN MODIFICATIONS IN ELECTRICAL SIGNAL SYSTEM - II



RS Refer to DWG 103

4 CHAN. FEEDBACK SYSTEM
FS 102


Student Stations
Remaining 19 Stations (in series)
1K
1K
1K
1K
Station 1
D.C. Power Supply
+
-
A.C.
A.C.
Col. 1
Col. 2
Col. 3
Col. 4
S1
S2
S3
S4
Local Calibrate Switches
A.C.

2.

15K 1
15K 2
15K 3
15K 4

Channel Current Calibrate Controls (Can be substituted for student stations)

Test Ammeter Switch

Deck 1

Channel On-Off Switches

Channel Tally Relays

1K
Channel Vernier 1
RL. 1

Meter Shunt 1
360Ω

Deck 2

1K
Channel Vernier 2
RL. 2

Shunt 2
360Ω

1K
Channel Vernier 3
RL. 3

Shunt 3
360Ω

Deck 3

Shunt 4
360Ω

1K
Chan. Vernier 4
RL. 4

Recording Ammeter
1
15.5K

R.A. 2
15.5K

Deck 4

4
3
2
1

R.A. 3
15.5K

R.A. 4
15.5K

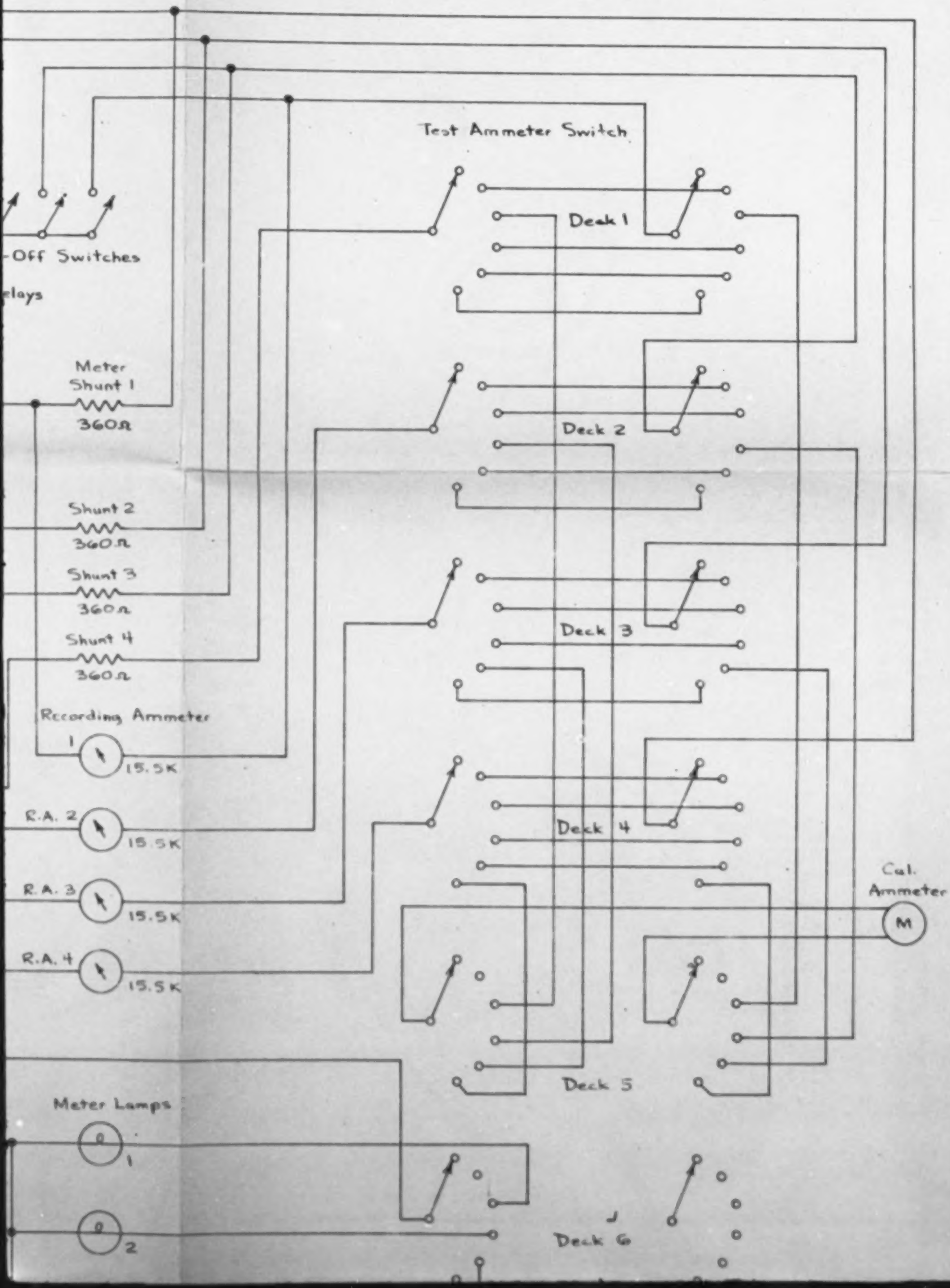
Channel Tally Lamps
1

Meter Lamps
1
2

Deck 5

Deck 6

Can be substituted for student stations)



A.C.

A.C.

S1

S2

S3

S4

Local
Calibrate
Switches

Cal. 1

Cal. 2

Cal. 3

Cal. 4

A.C.

Remote Tally
Lamps
(on TV camera)

1

2

Channel On-Off Switches

Channel Tally Relays

1K

RL. 1

Channel Vernier 1

Meter Shunt 1

360Ω

1K

RL. 2

Channel Vernier 2

Shunt 2

360Ω

1K

RL. 3

Channel Vernier 3

Shunt 3

360Ω

Shunt 4

360Ω

1K

RL. 4

Chan. Vernier 4

Recording Ammeter

1

15.5K

R.A. 2

15.5K

R.A. 3

15.5K

R.A. 4

15.5K

Deck 2

Deck 3

Deck 4

Deck 5

Deck 6

4

3

2

1

Channel Tally Lamps

Meter Lamps

1

2

3

4

3

4

Electrical Student Fe

SCALE:

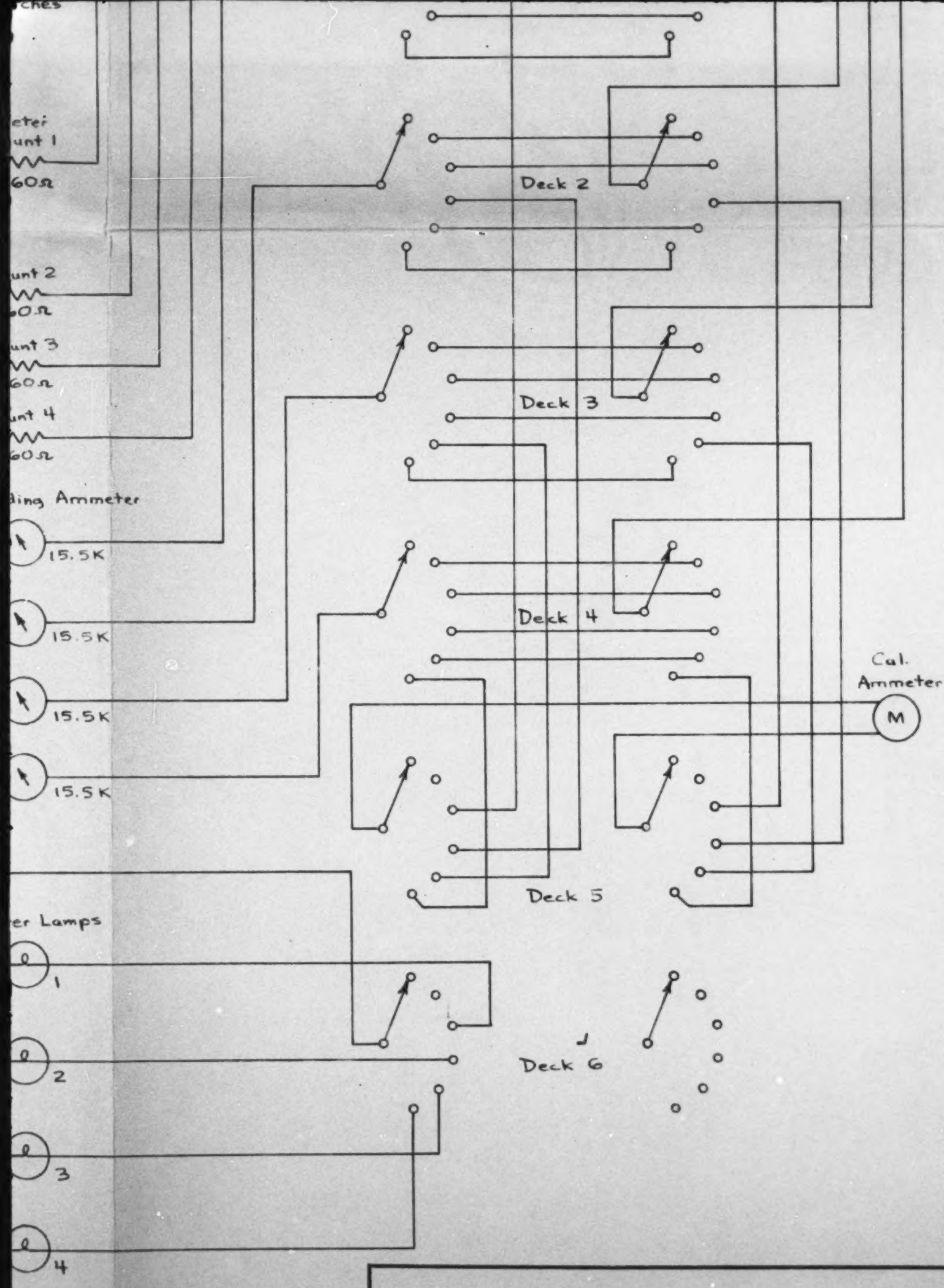
APPROVED BY:

DATE: Nov. 2, 1960

The American U
Department of S

Dsg by: Davorak - Penn

Appendix III-D



Electrical Student Feedback System

SCALE:	APPROVED BY:	DRAWN BY EJP
DATE: Nov. 2, 1960		REVISED

The American University
Department of Speech Arts

Dsg by: Davorak - Penn	DRAWING NUMBER FS 102

Appendix III-D